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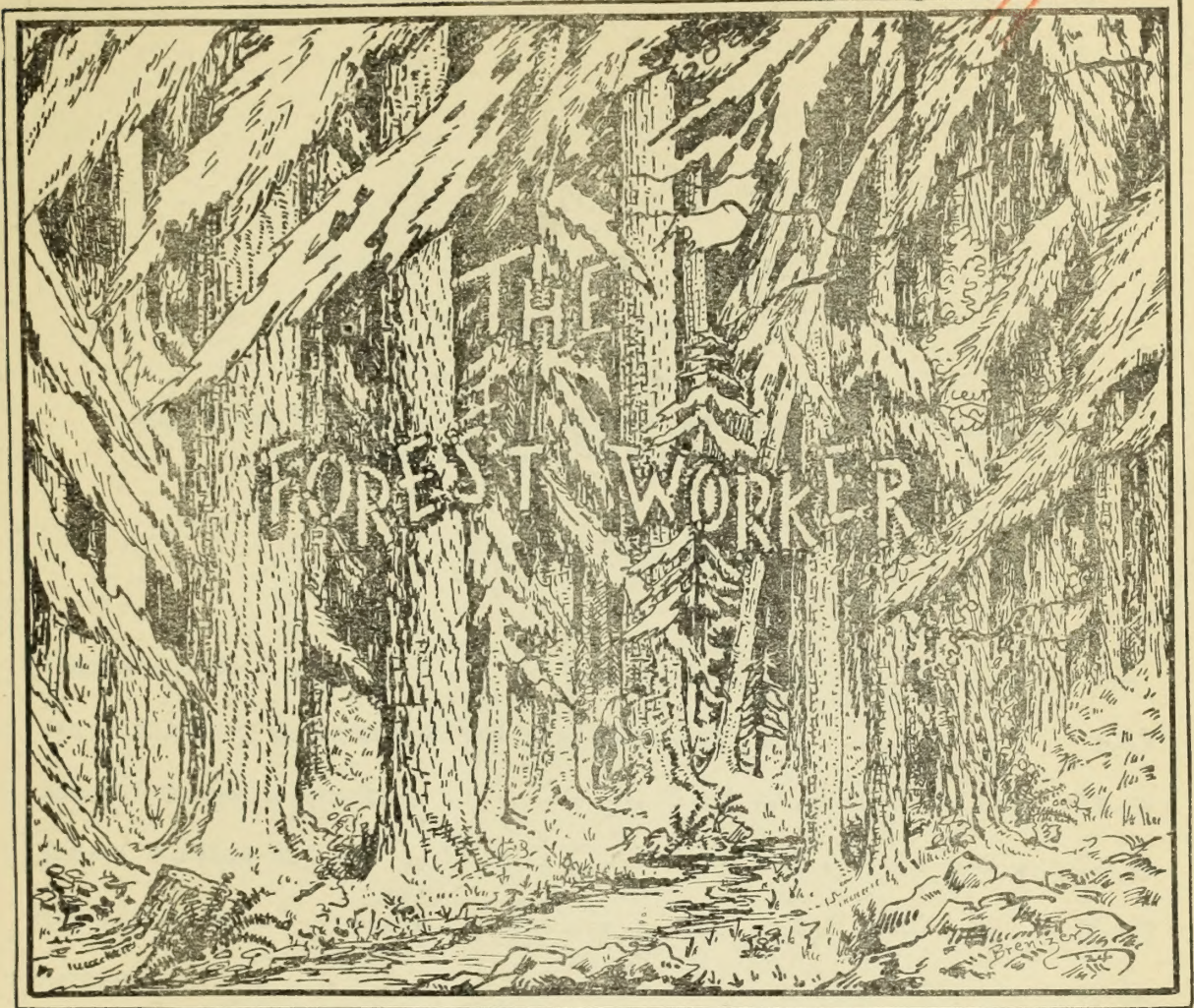


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UNITED STATES DEPARTMENT OF AGRICULTURE  
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# THE FOREST WORKER

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## ANNOUNCEMENTS

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President Coolidge has proclaimed American Forest Week to be held this year April 19-25, inclusive. American Forest Week is the successor of Forest Protection Week, which for the past four years has been proclaimed by the President.

The changing of name has resulted from the widening interest in various phases of forestry and with the hope of making a week applicable in scope to all regions in the United States and more inclusive than the old week which contemplated protection only.

The Forest Service is already laying plans toward making American Forest Week celebrated throughout the Nation.

### Forest Products Laboratory Announces New Courses

To promote the best and most economical use of the products of our forests and thus help to perpetuate the forests themselves, the Forest Service maintains at Madison, Wisconsin, in cooperation with the University of Wisconsin, the Forest Products Laboratory.

Although primarily an institution for research, the Forest Products Laboratory has also as one of its primary functions the task of getting into use the knowledge and the processes it discovers. It has gathered much useful information on the properties of wood and on the manufacture and use of wood products. A large part of the field for the practical application of this knowledge is in the industries. Demonstration courses in kiln drying of lumber, boxing and crating, gluing of wood, and wood properties and uses have been arranged to give not only basic knowledge but its practical application to everyday problems.

The courses announced for the spring are as follows:

Kiln Drying - - - - - April 27 to May 8, 1925.  
Boxing and Crating - - - - May 4-9, 1925.  
Gluing of Wood - - - - - April 20-25, 1925.



### Unpublished Papers and Manuscripts are Available

At the Forest School Conference held in Washington on December 29, a question was brought up regarding unpublished papers and manuscripts on file in the Forest Service offices that could be made available for distribution to faculty members of Forest Schools and State Foresters. The following may be obtained upon application:

Instructions for Grazing Reconnaissance. (Mimeographed)

Grazing Investigations Program, 1924. (Typed)

Representative Grazing Management Plan. (Mimeographed)  
(Would require extra map to be made in District from which sent.)

Report, Great Basin Experiment Station. (Typed)

Report, Jornada Experiment Station. (Typed)

Report, Santa Rita Experiment Station. (Typed)

Range Appraisal Report.

Index Map of National Forests of the United States.

Area Tables of National Forests.

Specifications for Horizontal and Vertical Control, as approved by the Board of Surveys and Maps on January 11, 1921.

Instructions for Leveling, as prepared by the Geological Survey and adopted by the Board of Surveys and Maps.

Requests for copies of silvicultural management plans cannot be met in full at present. A bulletin containing selected plans for widely scattered National Forests is now in preparation, and should be available in the fall. A selected list of available unpublished research manuscripts will be published later. All mimeographed manuscripts will be sent out without charge as long as the supply lasts. All typed manuscripts will be furnished with the understanding that the applicant bear the cost of typing.

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Allegheny Section, Society of American Foresters. Announce Meeting  
J. S. Illick, Secretary

A meeting of the Allegheny Section of the Society of American Foresters will be held in the Senate Caucus Room, Capitol Building, Harrisburg, Pennsylvania, on March 6 and 7. One of the features of the program will be a talk by Dr. J. A. Schenck, who is now spending several months in this country studying the forest conditions and lecturing at some of the forest schools.



## STATE FORESTRY DEPARTMENTS AND ORGANIZATIONS

### Is Forestry Important?

The first obstacle encountered in a discussion of forestry with the average man who has not given any thought to the subject is that if this subject is so important, if it is so necessary to protect the forests we have and to provide for more forests in the future, if it is really profitable to practice forestry, if it is really profitable to actually plant some of our soils in trees, why has this not been done in the past? Why have we been neglecting a thing which holds out such bright prospects of financial returns? The answer is simply this: we have reached the stage in our economic development when we are looking elsewhere for some of our timber, and other parts of the country are looking to us for timber. The point has been reached where it will be profitable to grow trees. This has not been the case in the past.

Also, our viewpoint as to the proper use of a large part of our lands is changing. The old viewpoint was that all of our lands were suited to agriculture; that agriculture would eventually use all of our lands and that they would be more profitable when devoted to agriculture than when devoted to timber. Every section of the South has worked, through all kinds of agencies, to get just as much of its land settled with farmers as possible, and we have in some cases destroyed a valuable crop, timber; that is, we have cut it down and burned it up in order to prepare the land for agriculture when it was not then and is not now suited to agriculture. We are beginning to learn that we have some lands which are suited to growing timber, but are not suited to agriculture.

Let it be understood right here that reforestation, that is practical and profitable reforestation or tree growing, would not contemplate taking one acre of lands on which crops can be grown profitably.

Georgia has an area of about 38 million acres. Of this less than 12 million acres are now being cultivated. Alabama has 33 million acres of land and of this about 10 million acres are classed as improved farm land. With two-thirds or more of our acres not in improved farms, we can readily see that reforestation is not a project opposed to agricultural development but in reality is a very important phase of agricultural development which will enable us to make more of our lands return a profit.

Reforestation will not interfere with any plan for diversified agriculture in any section of our territory. On the other hand, any economic plan of diversified agriculture will include the growing of trees for timber. Reforestation will not interfere with any plan for land settlement or immigration in general, and Georgia and Alabama in particular have millions of acres of land which could grow crops at more profit to their owners than would be realized if these lands were in timber. There are other millions of acres which will return a profit to their owners in any other crop except timber.--Agricultural Bulletin, Atlanta & West Point R. R. Co., Western Railway of Alabama, Georgia Railroad.



### New Forest Experiment Station Bill Introduced by Senator Pepper

Another step toward winning back Pennsylvania's timber heritage was taken when Senator George Wharton Pepper introduced Senate Bill 3877 to establish a Federal forest experiment station for his own and surrounding States.

The bill would appropriate \$50,000 to enable the Secretary of Agriculture to establish and maintain in cooperation with Pennsylvania and surrounding States, a forest experiment station. The station, either independently or in cooperation with State, county, municipal and university agencies, business organizations, and individuals, will conduct experiments and investigations of timber growing, protection against forest fires, and other forest problems.

Federal forest experiment stations have been established in recent years covering New England and New York, the Lake States, the southern pine belt, the Southern Appalachian Mountains, the Pacific Northwest, and the Northern Rocky Mountain region. Senator Pepper's bill has as its object closing the gap between the Northeastern and the Southern Appalachian station territories. The region covered would be Pennsylvania, southern New York, New Jersey, Delaware, Maryland, and eastern Ohio.

The forest experiment stations, under the direction of the Forest Service, United States Department of Agriculture, will carry on studies of the different forest regions and types to determine the best methods of growing timber as a crop. They have the same relation to timber crops that agricultural experiment stations have to farm crops.

Pennsylvania, the center of the territory for the proposed station, originally had over 26 million acres of forest land containing 500 billion board feet of timber. These forests have been reduced to 13 million acres in area and to only 11½ billion board feet of timber.

Lumber production in Pennsylvania reached its high level in 1900, when 2½ billion board feet were cut. In 1921 the production had sunk to only about half a billion feet while consumption reached 2½ billion feet. In 1860 Pennsylvania stood first in lumber production; she now stands about twentieth.

By proper management it is estimated that Pennsylvania's forests can be made to yield ultimately nearly 2½ billion feet of sawtimber a year, greater even than the banner cut for 1900.

Pennsylvania forest conditions are typical of those of the rest of the region to be covered by the proposed experiment station. The purpose of the station is to study the measures necessary to restore the original high productivity of these forest lands. Most of them are now growing only small amounts of timber of inferior quality.



Forestry as an Investment

100 Acres of White Pine

Dr. F. T. McLean of the Rhode Island State College Experiment Station, estimates that 100 acres of land set out to White Pine would call for the following investment:

Land . . . . .	\$ 8.00 per acre
Pine trees . . . . .	8.00 " "
Planting . . . . .	7.00 " "
Total outlay of	\$2,300.00

After deducting interest at 5% and taxes at 10¢ per acre compounded, the returns in

30 years would show a net profit of	\$7,000.00
40 years would show a net profit of	33,814.00
50 years would show a net profit of	65,560.00
60 years would show a net profit of	99,950.00

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100 Acres Mixed Oak Sprout Land

The same authority estimates that on 100 acres of mixed Oak Sprout Land valued at \$8.00 per acre, after deducting interest at 5% and taxes at 10¢ per acre compounded, the net profit at the end of

30 years would be	\$1,180.00
If allowed to grow to 60 years,	
the net profit would be	\$10,135.00

High Lights of Montana Report

In the recent report of the State Forester of Montana (7th Biennial Report, 1920-1923), which is distributed by the office of the State Forester, Missoula, Montana, some interesting points are brought out:

1. The total area of Montana's State-owned forests is more than 500,000 acres. Rough surveys indicate that the area is about 566,720 acres. Montana ranks next to New York and Pennsylvania in State-owned forests.

2. The estimated stand of timber on the State Forests is 3 billion board feet - an average of somewhat less than 7,000 board feet per acre. Its value, according to law, is set at \$3 per thousand.

3. The receipts from the State forests during the past 14 years have been more than double the total expenditures upon them. Receipts from sales of timber on the State forests from 1910 to 1923 totalled \$651,924.66, while expenditures during the same period were \$301,766.44.

4. More than one-fourth of Montana's total area of 94,383,000 acres is mountainous and forested. Of the total forest area of 21,332,000 acres, the Federal Government owns 17,832,000 acres and the State approximately 500,000 acres, leaving but 3,000,000 acres in private hands. In spite of this fact one of the four recommendations of the report is the extension of the State forests by acquiring cut-over lands suitable to forest production.

5. The total present annual growth of Montana's forests is estimated at 859,000,000 board feet, while the rate of cutting (as of 1920) was 410,000,000 board feet. The total average annual depletion at present is, however, 660,000,000 board feet, classified as follows:

Cutting - -	400,000,000 B. F.
Fire - - -	188,000,000 " "
Insects - -	72,000,000 " "

This shows that almost half as much wood is removed by fire as by lumbering.

6. Estimated expenditures needed for forest protection to cover the normal year, with a reasonably ideal system average 4 cents an acre.

Since 233,273 acres of the State forests comprise interior holdings within National Forest boundaries, funds are paid by the State to the U.S. Forest Service for protection of these areas. For the patrol and protection of those State forests situated in eastern Montana, she pays at the rate of 1/10 of a cent per acre; in western Montana she pays for patrol only, at the rate of 2-1/3 cents per acre. Fire suppression in western Montana is an additional charge, paid for on the basis of actual cost.

Fire protection, not including losses, now costs private owners from 1-3/4 to 3 cents a year per acre, according to location and seasonal hazard.

7. Present taxes on merchantable timber range from .0207 average minimum to .0493 per thousand feet, average maximum per year by counties. In 10 years they have advanced 91% on an average and seem to be advancing about 10% a year at the present.

Present taxes on cut-over lands valuable chiefly for forest growing range by counties from .0575 average minimum to .20 average maximum an acre, averaging approximately 10 cents per acre per year, the land is assessed at from 3 to 15 dollars per acre. Cut-over land taxes seem to be advancing about 10% per year.



8. Montana's principal forest types are four in number and all coniferous: (1) larch-fir, (2) yellow pine, (3) white pine, (4) spruce.

9. The mining industries of Montana alone use nearly 100,000,000 board feet, or one-fourth of the annual output of Montana's forests.

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#### Speaking of Resolutions

The Vermont Forest Service suggests the following New Year's Resolution: "Realizing that the present and future prosperity depends in a large measure upon the forest, I resolve to do all possible toward making the idle forest land of the State productive of valuable forest trees. I further resolve to reforest at least one acre each year until all the idle land which I own is reforested." Maryland adds: "and further to do all in my power to prevent the starting of any forest fires, and should any occur to do my utmost in helping to extinguish it promptly and before it covers a large area."--Md. Forest Wardens News Letter.

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#### Resolutions of California Forestry Board

At a recent meeting of the California State Board of Forestry, resolutions were adopted condemning light burning, declaring that both theory and practice are unsatisfactory as a means of fire protection, since it is destructive to watershed cover and to reproduction. The board also called upon the Secretaries of War and Agriculture to cooperate in establishing permanent summer camps within the boundaries of National Forests for troops, making them available for fighting forest fires. Resolutions were passed requesting cooperation of the State Fish and Game Commission in enacting legislation giving the Governor power to shorten or close the fishing and hunting season "when in his judgment it becomes necessary for the public welfare," and asking introduction of a bill at the next legislature providing for disposal of slashings on all privately-owned timberlands, where timber is being removed.

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#### New Tax Law Proposed for Oregon J. A. Elliott, State Forester, Oregon

A bill aimed to relieve the burden of taxation on cut-over or otherwise denuded lands will be introduced in the State legislature. A bill of this character was passed two years ago but was vetoed by the Governor on the ground that it would throw an unjust burden of taxation on other taxpayers by reduced taxes on the cut-over land. The bill is patterned after laws existing in other States and similarly its purpose is to relieve the major burden of the taxation on growing timber until the crop is harvested.

Denuded land, upon application of the owner and examination and approval by the State Forester may be classed as "reforestation land," and a contract drawn up with the State specifying what conditions must be met in order that a future stand of timber may be assured upon the land so contracted. These contracts are for a period of not to exceed sixty years. Upon approval of the contracts, assessors are notified and the property is then to be assessed upon the value of the land alone, and to be reassessed at periods of not to exceed ten years. Fifty per cent of the annual tax is to be a deferred tax and is payable at the termination of the contract with interest at four per cent, compounded annually. Merchantable timber when removed from the land is taxed as other property is taxed.

In contracting the land with the State, owners agree to comply with all fire and patrol laws and, if it is considered necessary, to take steps in order to establish a forest artificially. It is also possible under the proposed law to examine timber before cutting and specify what conditions must be met in logging the area in order that proper reforestation may be assured. When this is done the land may be subject to separate classification one year following the removal of the timber.

Oregon, like many other States, is sadly in need of a reform in the taxation of cut-over lands. It is almost universal practice among assessors to place the assessed valuation on cut-over lands far above any price that could be secured from a sale. Many of the timber owners pay this tax, arguing that if they allow cut-over lands to revert for taxes, the loss in revenue to the county will be made up simply by additional assessments against the timber.

However, following up this same line of thought, there must come a time, as the virgin timber area is reduced, when this same timber and over-assessed cut-over lands, under this system, will be unable to carry the tax burden. Then it must be shifted to other property. This is the problem that some of the counties are now facing and it must be worked out in the near future. When this work is undertaken cut-over lands must receive due consideration, for any tax that is in any way confiscatory will not be paid and the lands will revert to the county. On the other hand, owners could contract their lands with the State under the reforestation bill and thereby escape any excessive taxation.

Just how the law will work out, in case it is passed, is a question and its operation will be watched with interest.

#### A Unique Project in Vermont

The first number of the "Green Mountain State Forest News" of the Vermont Forest Service tells of an unusual experiment in reforestation.



In 1922 Mr. Guy Wilson of Bethel, Vermont, purchased an area of 120 acres of forest land known as the "Parker Lot." The cost was \$350.00. It was deeded to three trustees to be held in trust and dedicated to the purpose of timber growing by boys. Any boy interested in reforestation may plant an acre or more of the land upon registration with the trustees. The boy pays for the trees, to cost \$6.50 a thousand, and after it is planted he is given a certificate to that effect. At the time of maturity it is his right to cut them. He then pays to the trustees 1 per cent of the expense incurred by them, including the original price of the land, the yearly rental and the cost of protection, figured at 5 per cent interest.

Initial investment of the boys per acre, plus the cost of setting trees and the payment to the trustees, will amount at the end of 50 years to about \$40.00. It is estimated that the plantation should then be worth approximately \$300 per acre. Fifteen boys have availed themselves of the plan and have planted 30,000 trees.--Penn. Service Letter.

#### California Advocates Paid Camp Fire Permits

At the coming meeting of the California legislature, the California State Board of Forestry will introduce a bill providing for a paid camp fire permit law. According to the board's announcement, the camp fire permit bill provides that every person in the State of California, who, between May 15 and October 31, inclusive, of any year, builds a camp fire on land other than his own, without first procuring a State permit therefor, is guilty of a misdemeanor. The bill provides that camp fire permits for the period stipulated can be obtained for one dollar, in the same manner in which fishing and hunting licenses are now secured. It is also stipulated in the bill that all moneys collected from the sale of camp fire permits shall be deposited in the State Board of Forestry Forest Protection Fund, and shall be used for forest protection purposes, the improvement of public camp grounds, and for the purchase of lands for the creation of State forests.--N. J. Forestry News.

#### Fire Prevention Absorbs the Interest of Tennessee Foresters

The subject of forest fire prevention was given almost exclusive consideration at the recent conference of district patrolmen of the Tennessee division of forestry, which was held in Knoxville, Tennessee, and was attended by seventy-five delegates.

The possibilities of cooperation in preventing fires on both National Forests and private lands were discussed by M. A. Mattoon, Supervisor of the Cherokee National Forest, who referred to the work of the North Carolina and Tennessee departments of forestry, of the Pisgah, Unaka and Cherokee National Forests and private timberland owners as examples of what can

be accomplished in the way of fire prevention through cooperation. To secure more efficient protection he advocated that representatives of the two States meet with members of the Forest Service to work out a definite program for fire prevention, and that telephone lines and lookout towers be provided along the borders of North Carolina and Tennessee and also on private lands bordering National Forests.

J. B. York discussed the relation of fire prevention to the grazing business on public and private lands, showing that crops matured at least two weeks earlier on unburnt timber areas, and that cattle subsequently grazed on this land fattened more quickly because they could be placed on these ranges two weeks earlier and left there at least three weeks later than on burnt districts. Wild vegetation destroyed by fires takes at least three years to recover.

A. S. Maddox, State Forester of Tennessee, and Prof. Charles Keffer of the University of Tennessee, dwelt upon the preservation of the farm woodlot. Mr. Maddox, in stressing the part which the forests play in the financial and ethical development of the country, said that the maintenance of the productivity of our forests is the personal obligation of every citizen.

J. S. Holmes, State Forester of North Carolina, spoke on "Obstacles to Overcome in Fire Prevention."

Four important suggestions for more efficiently curbing the forest fire menace were offered by Patrolman D. B. Grinstaff in discussing the need of State laws for district patrolmen. They were: (1) to admonish sawmill owners to exercise great care in starting fires near their mills; (2) to prohibit landowners from burning branches and rubbish without a permit from their patrolman; (3) to forbid back-firing without a permit from the patrolman; and (4) to report all fires as soon as discovered.

J. H. Henderson, district forester of Tennessee, explained Virginia's fire-fighting organization and the financial handicap under which the Tennessee organization is laboring. Fifty-two out of the one hundred counties in Virginia are organized, while in Tennessee the organization has reached an impasse due to the fact that the State appropriation which, along with equal Federal and county appropriations, makes up the patrolmen's salary, has been exhausted. Each organized county in Virginia has a chief warden with eight to twelve district wardens under him. Their duty is to post fire notices, visit schools, inspect mills, and enlist the aid of citizens in campaigns against forest fires. This arrangement is further divided, with local wardens taking their orders from the district wardens and receiving remuneration only for the actual time they engage in the work. Corporations are being urged to cooperate with the State in its campaign against forest fires.



The final address of the conference was given by L. V. Woodloe, one of the oldest district patrolmen in point of service, on "The Necessity of Persistent Education in Fire Prevention."--American Lumberman.

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#### Plans to Combat Forest Fire Menace

To combat the menace of forest fires, the Michigan State Conservation Commission has formulated a tentative program including plans to patrol the wooded sections of the State, the extension of the observation tower system, and the purchase of other equipment to be used in this connection. A plan of scouting for fires with the aid of four airplanes will be tried out by the chief fire warden at the request of the commission with a view of establishing this system of detecting forest blazes during five months of next year. The State's tower system, which now includes 123 stations, will be extended by the erection of 20 additional towers. In addition, 137 special wardens besides the 14 district wardens have been proposed.--American Lumberman.

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#### Ohio Adds to State Forests

The enactment of the Forest Park amendment to the State Forest Acquisition Law has enabled the Department of Forestry to take over four forest parks of approximately 1,650 acres of the most outstanding scenic features of Ohio. These four areas are located in Hocking County and will eventually be included in the Hocking State forest. The tracts include sandstone caves and cliffs of unusual interest, and the gorges contain splendid stands of virgin forest and a flora of great variety. The forest and flora in the gorges will, of course, be maintained in their natural condition, but the old fields adjacent will be reforested, so that the tree plantations may be available to the people who visit the parks.

Ohio's State forests, including the game and forest preserve, now contain approximately 25,000 acres.--American Forests and Forest Life.

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#### Growth and Cut in New Hampshire

In New Hampshire 750 million feet of timber are used annually within the State, of which 450 million feet are cut in the State and 300 million feet are shipped in. The annual growth is estimated at 300 million feet so that we are cutting 100 million feet more each year than we are growing. At the same time there are 2,500,000 acres of unproductive forest land that could be growing useful trees. Five square miles of burned lands seriously reduces our much needed growing stock. Every million trees taken out of the State nursery and planted, and every square mile cleared of currant and gooseberry bushes means an increase in the growing stock.--N. H. News Letter.

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### Statistics of Fire Losses on Pacific Coast

The Western Forestry and Conservation Association has compiled a statement giving complete statistics of fire losses for the Pacific Coast during 1924.

According to this statement in California, Oregon, Washington, Idaho, Montana, and British Columbia, 294 million acres are under patrol; 162 million by the British Columbia Forest Service, 90 million by the U. S. Forest Service in National Forests, and 41,784,000 by cooperative agencies on private and other lands in the five States outside the National Forests.

In this entire territory there were 12,578 fires, which burned over 1,929,000 acres. About 71 per cent of them, 8,912 to be exact, were man caused. Of the law violators, 1,101 were convicted.

The cost of the regular protective organizations was \$3,599,600. Extra labor, supplies, etc., cost \$2,133,000. Logging camp protection cost about \$500,000 more, making \$6,232,600.

Add to this sum \$321,500 for timber lost beyond salvage, \$423,000 for logs burned on the ground, \$700,000 for logging equipment, and \$910,740 for general community improvements and we find that this year's fire hazard, mostly man caused, cost \$8,627,870. But we have not included National Forest timber nor any California timber because while this is reported at 800 million feet, we do not yet know its salvage chance. Certainly it is safe to put the bill at ten million dollars.

Merchantable timber reported killed was 1,125 million feet, practically inexpressible in percentage of the vast amount safeguarded, and 600 million feet or 70 per cent of this was in California, with the salvage estimate unreported. In Oregon, Washington, Idaho, and Montana, 325,062,000 feet was killed, of which 217,875,000 feet is reported salvable and absolute loss only 107,187,000 feet. On the other hand, these four States lost 57,577,000 feet of down logs, logging equipment worth \$631,865, and other improvements amounting to \$615,152. And it all came from 4,930 fires, of which all but 554 were man caused and therefore preventable.--American Lumberman.

### Rotarians to Aid Tree Planting

The Clearfield, Pennsylvania, Rotary Club has taken over 100 acres of barren waste land which they intend to reforest and develop under proper supervision. They are combining that great civic movement known as "Boys' Week" with the reforestation movement, and have applied to the Department of Forests and Waters for five thousand trees for next spring's planting by boys of high school age. This interest in reforestation is in no place better displayed than in the central part of the State, where at one time magnificent forests of white pine and hemlock covered vast areas of land which have been, during the life-time of many of our citizens, transformed into barren wastes.--Penn. Service Letter.



### Trees on Idle Land

In an address before the Chamber of Commerce at a recent meeting in Atlantic City, J. P. Wilbur, State Forester for New Jersey, stated that New Jersey has ample acreage to raise all the lumber necessary for its own uses, although nine-tenths of the timber used is now imported. However, there are 600,000 acres in the State, now more or less idle, that are suitable for growing trees. The State forestry program, which would involve spending about \$100,000 annually, would provide 200,000 acres of woodlands within ten years. Failure to carry out the program would result in a still more acute shrinkage in the timber output.--American Lumberman.

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### Michigan Governor to Call Conference

Governor Alex. J. Groesbeck, of Michigan, is making plans to call a conference of governors of the central States to discuss conservation problems within a short time. Governor Groesbeck has indicated that he intends to ask the legislature to provide funds for a forest planting and fire control program of such unprecedented scope that the next two years will mark the beginning of the first serious attempt to reforest cut-over lands in Michigan.--American Lumberman.

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### Town Forests

The Massachusetts Forestry Association, which introduced town forests to Pilgrim soil, has offered to plant the first 5,000 trees (five acres) for every town that sets aside 100 acres of land for forest planting. Once established, a town may turn its forests over to the expert management of the State forester.

The town forest can be not only a profitable community venture but a demonstration to private landowners of how to turn their idle acres to account. As civilizations grow older the complicated problems of an adult State demand a higher order of citizenship from a people who would cope with them. Our town forests will be at least one answer to the challenge that a democracy cannot take thought for its future. The town forest represents an investment in the substance, the beauty, the pride and the competence of the future community.--Blister Rust News.

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During 1923 over nine per cent of the total revenue of the first-class railroads of the country was received from forest products. The total revenue received from this source was \$419,867,000.--Md. Forest Wardens News Letter.

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### Fire Protection in the Contra Costa Hills

Both Professors Woodbridge Metcalf and Manuel Fritz of the University of California have been active in furthering the work of the Contra Costa Hills Fire Protection Committee, which was organized by the former in 1922 in cooperation with State Forester M. B. Pratt, to prevent and extinguish fires in the hill country adjacent to the cities on the east side of San Francisco Bay. Apathy towards the early efforts of this committee culminated in the disastrous Berkeley fire of September, 1923, following which a systematic plan of protection was drawn up and a tentative budget adopted. What is probably the most substantial and completely equipped lookout tower and watchman's residence in the United States now crowns the summit of Grizzly Peak, from which notification of fires is immediately broadcast by telephone and the warning shriek of a large electric siren. Twelve local firewardens under the direction of a District Ranger from Sacramento are constantly on duty during the dry season. Several fires which might easily have assumed dangerous proportions were extinguished last summer with only nominal losses. One in October threatened San Leandro and the Lake Chabot filter plant, destroyed several thousand acres of valuable plantations and was extinguished only after hours of fighting by several hundred men.

If the matter of right of way can be settled, Alameda County will this year adopt the suggestion of the committee and build a skyline boulevard from the west entrance of the tunnel north along the face of the hills to Euclid Avenue, Berkeley. Contra Costa County proposes to erect a second lookout tower on Round Top Peak to complete the detection service. Over thirteen thousand dollars have been expended in furthering the work of the committee this year, and it is hoped that an annual budget of about ten thousand dollars will be provided by the cooperating agencies in order to put the work on a permanent basis.

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## EDUCATION AND EXTENSION

### International Relations in Forestry

The International Institute of Agriculture at Rome now undertakes to compile and disseminate current statistics on the status of agriculture throughout the world and has already made a start to include forest statistics in the sphere of its activities. The International Education Board is, among other things, providing for the exchange of personnel in agricultural research between this country and Europe with the object of securing the benefit of the best European experience in working out America's problem and in giving our men first-hand contact with the problems and methods of agricultural research in Europe. The board has expressed an interest in forestry as a field of agriculture which might well be included in its activities.

In order to provide for consideration of the subject of international relations in forestry by a representative group of foresters and to formulate so far as possible a definite program for discussion with the International Education Board, the International Institute of Agriculture, and any other interested agencies, the U. S. Forest Service, through S. T. Dana, Director, Northeastern Forest Experiment Station, called a conference in New York the latter part of October. This conference was attended by the following foresters: H. P. Baker, F. J. Craighead, S. T. Dana, W. O. Filley, R. T. Fisher, H. S. Graves, R. S. Hosmer, R. S. Kellogg, E. N. Munns, Perley Spaulding, and R. Y. Stuart. Dr. Whitney H. Shepardson of the International Education Board was also present throughout most of the conference.

The conference voted to recommend to the Society of American Foresters the appointment of a standing committee on international relations, and to secure discussion of the subject at the annual meeting of the society in December. (At the December meeting of the Society of American Foresters a standing committee on International Relations in Forestry was established with S. T. Dana, Chairman, to work in cooperation with the National Research Council, the International Institute of Agriculture, the Tropical Plant Research Foundation, and other organizations having foreign contacts.)

It was also voted to urge the International Institute of Agriculture at Rome to make adequate provision for the collection, analysis and distribution of international forest statistics under the direction of qualified forest economists, special emphasis being placed on the magnitude of the task and the importance of an adequate and properly trained personnel.

The conference regarded thoroughgoing research as essential to advancement in forestry and felt that forest research in this country was greatly in need of the direction and stimulus which can be obtained by direct contact with European experience. The fields in which such contact would be of especial value were classed as forest production, forest economics and policy, and forest and wood utilization. The exchange of workers

between the United States and other countries was regarded as the most effective means of taking advantage of European experience along these lines.

In addition, the conference suggested two other ways in which international education in forestry could be promoted, namely, lecture tours in this country by prominent European foresters or American foresters who have acquired information in research work abroad, especially in the field of forest economics, and short lecture courses in the various forest schools by prominent European foresters.

An interim committee, composed of S. T. Dana, H. P. Baker and R. T. Fisher was selected to give further consideration to the matter, to present a general program to the International Education Board, and later to formulate concrete projects with specific suggestions as to objects, urgency, personnel, costs, cooperation, and other details.--Yale Forest School News.

#### Cornell Forestry Department Holds Census

In a statistical study made by Prof. J. H. Guise of the Department of Forestry at Cornell University, with regard to the present status of the graduates and students of the former New York State College of Forestry at Cornell University, 1890-1903, and the present Department of Forestry at Cornell, 1911-1924, many interesting facts are disclosed. Without attempting a detailed analysis of the figures, it is worth while noting that of those who took the degree of T. E. from the former College of Forestry at Cornell and who are still living, 100 per cent are making direct use of their training, the majority being engaged in lines of private endeavor.

It is also significant that among the graduates of the present Department of Forestry at Cornell, about one-half of those who have completed the regular undergraduate course are engaged in their profession, as compared with three-quarters of those who have completed post graduate study and taken the M. F. degree.--J. H. Guise, Cornell.

#### Conference of Forest School Men E. E. Sarter, U. S. Forest Service

Representatives of 19 colleges and universities giving instruction in forestry met with the Forester on December 29, before the annual meeting of the Society of American Foresters in Washington. The discussion centered on the employment of technically trained men by the Forest Service, especially as rangers. The forest school representatives were practically unanimous in stating that the entrance salary of \$1660 and assignment to work as



rangers on the National Forests should attract a sufficient number of capable trained men, if the opportunities for advancement in the Service were bettered. They recommended that passage of the Junior Forester (Forest Assistant or Grazing Assistant) Civil Service examination be made a prerequisite to promotion to Supervisor or to some other rank as a means of stimulating the influx of trained men. They also advised against any substantial changes in the form of the Junior Forester examination, although urging care in the preparation of questions.

The meeting was widely representative of forestry education in the United States, as may be seen from the following list of institutions which had faculty members in attendance: Ames, California, Colorado College, Cornell, Georgia Agricultural College, Idaho, Maine, Michigan University, Michigan Agricultural College, Minnesota, Montana, New Hampshire Agricultural College, Oregon Agricultural College, Pennsylvania Forest Academy, Penn State, Syracuse, Washington, Washington Agricultural College, Yale.

#### University of California Plans Lumber Laboratory

The rapid growth of the lumber industry of California has made greater demands upon the division of forestry of the University of California than its present equipment can take care of. An enlarged lumbering and wood technology laboratory is therefore needed, and tentative plans have been prepared to submit to the next legislature. Professor Emmanuel Fritz will have charge of the new laboratory in which such studies as methods of sawing, design of saw teeth, the kiln drying of lumber, and determination of properties of woods native to California will be carried on. The new equipment will include a small sawmill to handle logs up to three and four feet in diameter, a resaw, a planer, and other related machinery and a dry kiln. The investigative work to be conducted will have as its principal objective the better utilization and handling of forest products. It is recognized that no forest and sawmill product can be produced without certain unavoidable wastes. The University hopes to have another laboratory adjoining the lumber laboratory in which to carry on a series of studies to determine the possibility of utilizing the wastes through chemical means, either for paper pulp or products derived by distillation. Here, also, would be conducted experiments in the preservative treatment of wood products to protect them against decay.--American Lumberman.

#### The Cruise of the Chapin Estate

Following the close of the summer term at Milford, Pennsylvania, all available members of the Yale Forestry Class of 1926 were employed on a timber cruise covering the estate of Chester W. Chapin, near Port Jervis, New York, which had to be completed in two weeks. This project presented many novel and interesting features.

The original owner, Chester W. Chapin, had in thirty years acquired a solid block of land surrounding Lebanon Lake, west of the Mongaup River, in Sullivan County, N. Y. Part of this tract was purchased from the estate by the Rockland Light and Power Company, which desired an estimate and appraisal of the timber on its holdings and on the remaining area.

The timber on the area was the typical hardwood and pitch pine mixture characteristic of the hills back of Milford, Pa., but the tract was located within striking distance of the Erie Railroad and the demand for mining timbers in the Scranton-Wilkes Barre hard coal district gave a value to all hardwood species, except "popple," no matter how small. The chestnut was dead, but still sound, and there was considerable white pine in places. The ordinary board foot estimate would not do. This tract had to be estimated in terms of mining timbers, giving the linear feet of timber for each class of product.

To do this, taper tables were used which had been constructed at Milford, Pa. These tapers were plotted and for trees of each diameter and height the linear feet of prop material was read up to the given diameter in six classes of props, 12", 10", 8", 6", 4" and under 4", which were classed as lagging. These data were combined into a volume table for linear feet by diameters and heights. Volume tables for cubic feet were also available.

The company requested that a separate tally be made of poles suitable for electric lines. To solve this problem and also to devise a rapid and practical method of measuring heights, an adaptation of the Biltmore stick was perfected. Each cruiser had graduated his own stick at Milford to read diameters. On the back of the stick a scale was placed reading 5-foot gradations at fixed intervals, to a total of 80 feet. This was used on the Christen principle, but instead of a 10-foot pole, 5 feet was the measure, and this was supplied by a second man standing by the tree to be measured. Care in determining a 5-foot length on this individual, and in holding the stick vertically, permits of reading heights without measuring distance from the tree. As each of two cruisers on a strip estimate is armed with a Biltmore stick they can at any time stop and each read the height of the tree singled out by the other. The plan worked well in practice. For the poles, each man wore, pinned on his chest, a white sheet of paper (tally blanks) having the diameter of the top of a merchantable pole marked upon it. The straight sides of the stick held by the other man permitted him to determine the point of equal diameter on the pole whose height he then measured with the same stick.

The crews consisted of eight men in two 4-man crews, one foreman, one extra man to fill in, and Prof. Chapman. The plan of survey was to chain a base line, staking point at one-quarter mile intervals, and run chained strips 4 rods wide, tallying all diameters by species, and taking enough heights to plot curves for each species and type.

Three miles was to be a day's run. On the first day out it was demonstrated that the base map was badly in error, and that the topographic map of the U. S. G. S. was not much better. Strips planned on the map ran unexpectedly into lakes that should be somewhere else or jumped off the property altogether. It became necessary to construct a map showing the property lines and lakes, and to keep ahead of the strip estimates, if the job was to be cleaned up in the time allotted. There was no time or men



available to conduct chained road or boundary surveys, or to plot them. So the work was done individually by Prof. Chapman with the use of a traverse board and pacing, covering all the roads and a large part of the boundaries within the requirements of the job.

The chained strips at one-quarter mile, or 5% survey, served to complete the type-map over most of the area. Where it was found insufficient because of old fields and other irregularities, one man was sent to run a strip midway between and map types without estimating timber.

In the middle of the job the company wired a request for a separate total estimate of the area which would be flooded by raising Lebanon Lake seven feet! To obtain this information a 20 per cent cruise was made by running a strip back at right angles to the shore at every five chains and doubling up at the corners. The 7-foot contour was located on each strip with an Abney level wielded by an extra man. As the undergrowth was dense, concealing the ground, the method used was to pin a piece of white paper on the back of the compassman, at a height just 2-1/3 feet below the eye of the Abney man. When the former had attained an elevation of 2-1/3 feet the Abney man came up and the process was repeated twice more, the last stretch locating the contour. Water levels in bays, swampy stretches or streams supplemented the process.

After ten days and when most of the valuable timber was covered, the four-man crews were split into two-man parties, a compassman and estimator who tallied his own trees by eye. The immediate effect of this was to speed up the work of a crew at least one-third. In other words, two men found they could cover four miles in less time by pacing and ocular tally than four men took to cover three miles in the same country. The speed and efficiency were therefore increased, not 100%, but 166%. Accompanying this was a loss of accuracy, first, in measuring distances, which could be controlled by tying in both ends of the paced line, and second, in estimating diameters by eye, which could not be effectively controlled short of careful and difficult check estimating.

The character of the country, while not mountainous, presented the maximum difficulties for travel. The surface was frequently composed of angular rocks, half the area has been recently burned, one fourth of the remainder was scrub oak thickets, and in the unburned area dense laurel was encountered, which was particularly bad in one or two of the spruce swamps. In spite of this, and due to the shift to two-man crews, the survey was completed within the time scheduled. The total cost appraising the time of Prof. Chapman on a wage basis of \$250 was \$.08 per acre, including both field and office work, map and report, and all expenses for supplies, board and travel. Wages were \$3.00 per day and expenses.

In computing the estimates the stand of mine timbers was arrived at in two ways, by linear feet of different products, and by total weight. These timbers are purchased now largely by weight per car or on a tonnage basis. The weights constituted the check in the computations. The average

weight per linear foot was used for each class of timbers to get the total. Then the weight per cubic foot was applied to the total cubic estimate and the two results compared. This revealed any large error in calculations. Very little computation was done in the field, as the crews had done a full day's work when they had run their strips.

The data secured seemed to indicate that the company by conservative cutting could immediately go onto a sustained yield basis. Recommendations were made to this effect and the employment of a forester was advocated. The company officials adopted these suggestions and engaged Allen M. Tucker, who on November 20 resigned his position with the U. S. Dept. of Agriculture in Blister Rust work and took up his residence on the Chapin Estate to work out the problem of forestry for mining timbers on this tract. Combining as it does the three features of game conservation, water storage and power, and forestry with a permanent steady market for low grade products, the opportunities for successful forestry are very promising.--H. H. Chapman in the Yale Forest School News.

#### Growth Study in Redwood

A block recently cut from a redwood tree 48 inches in diameter which stood on the Albion River near Comptche and which was left by the loggers of 1874 shows some interesting growth figures. Evidently this tree was suppressed and of small size at the time of logging, although even at that early date it was several hundred years of age, since ring counts show that it made only 3 inches of growth in a hundred years. Following the opening up of the stand, however, the rate of growth was accelerated to 7 inches in 42 years, but of this total the sapwood amounted to 4½ inches. The specimen shows emphatically that while redwood will endure long periods of suppression, the lumbermen are passing up much in the way of a nucleus of future stands of clear lumber. When second growth redwood is depended on for the future, there will be a very small proportion of clear lumber, while the present suppressed trees of low merchantable value left standing would furnish a large percentage of such grades, although, of course, the wood would be of different character than the present clear lumber.

#### New Courses Added to Idaho Forest School

A new course, Recreational Uses of the Forest, will be given for the first time during the second semester. The use of forests for recreation has increased tremendously during the last three or four years, and it is generally recognized that as a legitimate and valuable forest use plans must be made for it. The new course will attempt to cover the broad field in an efficient manner.



The Idaho School of Forestry has an enrollment of ninety-nine students, representing twenty-three States, and one man from Canada, two from the Philippine Islands, and one from India.

The new Ranger Course, of twelve weeks, began on January 5.--The Idaho Forester.

#### An Arboretum for the Pennsylvania Forest School

St. Bernard said: "Trees will teach what thou canst not learn from a master." This expresses the primary reason for establishing an arboretum at the State Forest School at Mont Alto, Penn; namely, to aid in teaching dendrology.

Four students are developing this project. These men have already listed the tree species which are now present and those which are needed. The trees are listed by habitats. The students are drawing up a plan and arranging for shipments of stock for planting next spring. The plan, when completed, will be submitted to a committee of Foresters for consideration and suggestions.

When the project was first mentioned, it was thought best to group the trees along systematic lines, arranging them by genera. Since then it has been learned that better results are obtained through natural grouping, placing each tree species in its preferred habitat. It is probable that this method will be adopted.--T. Edward Shaw.

#### Robin Hood Oaks Brought to Syracuse University

The growing of Robin Hood oaks from seed of the trees that have made Sherwood Forest famous in song and story will be attempted by the New York State College of Forestry at Syracuse University. Prof. Nelson J. Brown, who recently returned from England, brought with him a supply of acorns garnered from the famous oaks in Sherwood Forest where Robin Hood and his banditti held forth. Some of the oaks now standing in Sherwood Forest are said to be more than 1,500 years of age and a number of them are 15 feet in diameter. Special oaks like Robin Hood's Larder, the Major Oak, and the Queen's Oak, were selected by Prof. Brown.

Some of these acorns will be planted about the campus. Others will be used in a plot at one of the college experiment stations, where a scientific study can be made of their development. This plot will form the nucleus of an historical arboretum to which will be added from time to time the offspring of other famous trees.

The acorns were made available through the courtesy of the British Forestry Commission and the Federal Horticultural Board at Washington which has the power to restrict the importation of trees and seeds, in order to protect the country from the possibility of destructive tree diseases.

#### How the Pacific Logging Congress Can Assist Forest Schools

The Logging Congress a few years ago formally requested the various colleges and universities of the West to provide courses in logging engineering. The educational institutions responded. In Montana, Idaho, Washington, Oregon, California, and British Columbia colleges and universities grant degrees in logging engineering. The subject matter in the courses in logging engineering was agreed to in conference between practical operators and the forest school faculties. Young men have been graduated from these courses and are now being tried out in the woods. Some have made a decided success in their work. From the time of the establishment of the courses in logging engineering in the colleges, the congress has evinced but little active interest in the forest schools or the status of the work. It is my feeling that it would be well for the parent to show a little livelier interest in its progeny.

Here are the ways in which, in my judgment, the Logging Congress can be of real help to the logging engineering departments of the forest schools.

The Congress can create in each State represented in the Congress a committee consisting of three practical, up-to-date loggers, whose functions should be to serve in an advisory capacity to the departments of logging engineering of the respective States. These committees should hold conferences with the faculties of the forest schools at least once each year. These conferences will serve to keep the school men thoroughly in touch with the field men and the field men with the school men. In this way the forest schools would be constantly checked up on the requirements in the field and the field men would get an idea of the limitations of the schools. While the schools should, and do, make their instruction decidedly practical, yet it must be understood after all that the technical courses must have a solid basis in theory and that the practical application of the theory must be made on the job. The committees which are recommended in this connection should be standing committees of the congress.

The Congress through its members can establish a definite plan by means of which students in logging engineering may obtain practical woods experience during summer vacation. Under normal conditions these students have no difficulty in securing employment of some sort in the camps. But mere employment is not the important thing. It is highly desirable that the right sort of employment be obtained, in order that these embryo logging engineers may have the best opportunity of studying the operation as a whole. In other words, this summer work should be made to connect up with the college work. It can be made as valuable as any laboratory work in school.



It is fully appreciated that this may entail some little attention on the part of the operator and of his woods boss. Nevertheless, there should be, and I think there is, sufficient professional spirit on the part of operators to assist in this small way in helping to raise the standard of the logging engineering profession. It should be distinctly understood that an easy job is not the thing desired. The young chap wants to learn. The operators are going to use these men. The operators should assist in developing them.

Through the Congress a real understanding can be reached relative to the status of the recently graduated logging engineer. In the past too much has been expected of him, by operators and woods bosses, when he has first gone out on the job. Strictly speaking, he is not a logging engineer at that stage of his development, and will not be until he is seasoned by woods experience. Those of us who have, for several years, been interested in the development of the logging engineer, realize fully his limitations at the time he finishes college. We know that his training in the woods on the job is just as important as his technical training in the schools. The logging engineer should be promoted slowly. He should not have responsibilities placed on him until he is able to carry them. All of us in the forest schools respect the abilities of the men in the logging game who have been trained in the school of hard knocks. You who have been trained in that school should reciprocate by giving due consideration to the training of the college man.

The Congress can create among its members a helpful attitude toward the forest schools. The schools recognize the value of knowledge possessed by the practical operators. The schools can not afford to buy that type of experience for use in the lecture room. The men who are past masters in the logging game can afford, I think, to take an occasional day off to discuss before the young men in the forest schools subjects which they know, because of their many years of experience.

The Logging Congress can help the forest schools and through the schools the entire industry by promoting research work to be prosecuted by the faculties of the forest schools.

In these ways the Pacific Logging Congress can render very material assistance to the forest schools.--Taken from an address by G. W. Peavy, Dean School of Forestry, Oregon Agricultural College, Corvallis, Ore., before the Fifteenth Pacific Logging Congress.--The Timberman.

#### May Establish Community Forest

New York City may acquire a community forest or plant one by recommendation of Prof. Hugh Findlay of Columbia University, who is directing work along lines of reforestation and tree conservation for university extension students. The forestry situation is dangerous to the national welfare, Professor Findlay contends, and he insists it is the duty of the

city, town or village to cope with conditions. Central Park and the New York Botanical Gardens will be used by his students as laboratories in experimental work. A special investigation will be made of the importance of birds to forests and home trees, and of the use of trees in industry.--American Lumberman.

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#### Prominent Foresters Speak at Cornell

The students of the Department of Forestry of the New York State College of Agriculture at Cornell have been fortunate of late in having many prominent foresters visit Ithaca and tell them a little about their work in forestry. Mr. C. R. Pettis and Mr. S. T. Dana both made visits before Christmas and spoke at meetings of the Forestry Club. After the holidays Mr. F. G. Miller, the head of the School of Forestry at the University of Idaho, spoke on forestry in the western white pine country. Dr. Schenck made a brief visit to the department and spoke on many phases of present-day forestry. As a result of the interest which he aroused it is very likely that some of the graduate students will make arrangements to accompany the students of the Mt. Alto School of Pennsylvania on the proposed six weeks trip through prominent European forests.--C. H. Guise, Cornell.

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#### Plan to Establish Chair in College

Plans for the establishment of a university department for specialization in their line was discussed by directors of the Ohio Association of Retail Lumber Dealers at Columbus, Ohio, recently. A committee to develop the plans was appointed consisting of G. H. Barnes, head of the commercial department of the Technical School at Ohio Wesleyan University; Dean Philip Nash of Antioch College, and four members of the association.--Lumber World Review.

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The profession of forestry is only in its infancy. It is the finest profession in the world, full of continuous investigation and research. We have made a very good beginning, but there is much more to be done; and for those who work, there is that wonderful reward - the joy of accomplishment.--Louis J. Loetzer, Penn. State Forest School in Penn. Service Letter.

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## REPORTS OF THE FOREST SERVICE

### Objectives of the New Federal Forest Experiment Station

By Thornton T. Munger, Director Pacific Northwest Experiment Station

There is a lot of timber on the Pacific Coast. I do not wish to appear a calamity howler and predict its early exhaustion. It will last a long time yet, but it takes a long time to grow a slow crop like timber.

The Forest Service of the Federal Government has foreseen that logging without forest replacement is industrial suicide. It has sensed the changing economic conditions which are paving the way for the much more general practice of forestry or timber growing. Naturally it is a matter of public policy to help this movement along that the lumber industry and the public may suffer in the years to come as little as possible from timber depletion and land idleness.

Before forest lands can be put on a basis of continuous production some questions must be studied and answered. We are very ignorant in this country of the methods of cutting forest trees to promote new crops, of methods of brush disposal which are practical and will favor reforestation, of the rates of growth of our several types, of the pests and enemies of our forests whose control is essential to profitable industry. The technical details of how to grow crops of timber must be worked out. Research has done much for agriculture. Without systematic study of agricultural problems, farming would have been as crude now as a century ago. Here again there is a resemblance between the evolution of the art of agriculture and of forestry. What the research scientists are doing at the agricultural experiment stations has been essential to farming; likewise research is fundamental to putting timber growing on an economic and successful basis.

In the realm of forestry research is doubly important because the growing and tending of timber crops is relatively a new thing in this country. Research is laying the foundation for forest practice. This must be a good foundation if the business of growing timber crops is to be stable and profitable.

It has been the plan of the Forest Service to establish in each of the important forest regions of the country a forest experiment station where the local problems could be worked out by systematic observation and experimentation. As fast as funds have been made available by Congress this program has been followed. This year it has been possible to establish what is called the Pacific Northwest Forest Experiment Station, whose job it is to find out by scientific research all there is worth knowing about growing and protecting the forests of the Douglas fir region and of the northern yellow pine region. This is by no means the beginning of forest research in this territory. The Forest Service has always carried on some technical investigations in connection with its administrative duties.

The progress that has marked the care of the National Forests during the last 15 years would not have been possible otherwise. The research work to date has been centered chiefly at what has been called the Wind River Experiment Station. The new organization is a material enlargement of the earlier work; it absorbs and continues the Wind River projects. Studies will be carried on throughout the Northwest wherever the problems lead. Though Portland is the office headquarters, the forest land of the whole region is our laboratory.

This past field season we have been trying to answer the question, What is the growth per acre of Douglas fir for every soil and climate of the region? A party has been in the field all summer measuring typical so-called second-growth stands from 40 to 140 years of age on all types of soil and in the various climatic zones of western Oregon and Washington. This project will be continued another season at least, and will not be closed until we are in a position to say with a good deal of assurance how much timber the several soil types of the Douglas fir region are capable of producing under proper care, how many trees per acre there should be for maximum results and what their sizes will be at every age during the rapid growth period. With this information landowners can figure in a businesslike way what gross returns timber growing will bring.--The Timberman.

#### Strategy

Supervisor Billings of the Wallowa National Forest, Oregon, has found the secret of getting the attention of the visitors at the County Fair. The Forest exhibit includes a fire finder, and the visitors think it is a roulette wheel, and crowds gather around wanting to bet on it.

#### Striking Increase in the Lumber Cut

A. V. Reynolds, Washington

On December 15 the Bureau of the Census released a preliminary statement showing the results of the lumber census for 1923, compiled in cooperation with the Forest Service. The canvass in all western States was carried on by the District offices.

The total cut of 37,165,540,000 feet B. M. is the largest recorded since 1916, and serves as one of the evidences of the return of prosperous conditions following the World War.

United States per capita consumption of lumber, which decreased to 245 feet in 1921, is computed as 330 feet in 1923, an increase of 35 per cent. The increase of consumption was by no means evenly distributed over the United States. Among the nine States showing actual decreases are North Dakota, South Dakota, Nebraska, Colorado, Oklahoma, and Wisconsin. South Carolina, the State of lowest per capita, decreased still further.



The great States of the industrial region show moderate increases. The most striking increases appear on the Pacific Coast, where Oregon, Washington, and California together consumed 28 per cent more than in 1922. Their consumption was nearly one-fifth of the amount used in the United States.

The consumption of California is the peak of record for any State, being 4,289,000,000 feet, or practically one-eighth of the total lumber used. Of the lumber consumed in California about one-third was cut within the State, while practically all the remainder came from Washington and Oregon.

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Question: In building a lookout station on a high peak above timber line, what would be the determining factor whether lumber or logs would be used?

Answer: The Forest Supervisor.

Question: Who created the first National Forest?

Answer: The first National Forest was created by God, but was afterwards enlarged by Theodore Roosevelt.

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#### Two New National Forests Established in the South

Establishment of two new National Forests in the South is announced by the Forest Service, United States Department of Agriculture, bringing the total number of National Forests up to 149.

One of the new forests, known as the Jackson, is located about six miles southeast of Columbia, S. C., on the site of Camp Jackson. This forest embraces about 20,000 acres and was created by President Coolidge under authority of the Clarke-McLary Law which provides, among other things, for National Forests to be established on military reservations subject to regulations agreed upon by the Secretary of War and the Secretary of Agriculture.

The second new National Forest is known as the McJannet and consists of about 15,300 acres adjoining the city of Anniston, Ala., on the site of Camp McJannet. This forest was also created by the President under the provisions of the Clarke-McLary Law.

Both the Jackson Forest and the McJannet Forest will continue to be used for all necessary military purposes under plans agreed upon by the Departments of War and Agriculture.

These new forests will serve for the present principally as demonstrations of forestry practice, as many years must pass before the timber stands grown under the Forest Service system will be ready for the market. All timber on the areas will be managed on the perpetual supply plan which provides for new tree crops to take the place of the matured trees.

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### Better Utilization

What to do with Alpine fir has been more or less of a sticker in a good many Forest Service timber sales.

After being accustomed to howls from timber operators and after putting Alpine fir in with the dead timber at \$1.00 per M, it leaves a pleasant taste in the mouth when an operator comes in and wants 75,000 feet of Alpine fir, wants you to be sure and mark it heavy, and is willing to pay \$1.50 per M for it.

For the purpose of bracing fruit cars Engelmann spruce, Douglas fir, etc., were formerly used and are to a certain extent still used in this locality, 2 x 4s are used and it has been found that Alpine fir 2 x 4s are just as good for this purpose as higher priced material. Alpine fir 2x4s can be bought at the local mills for \$20.00 per M, whereas Engelmann spruce or Douglas fir material costs \$25.00 per M. The manager of a Fruit Exchange informed me this summer that during a fair fruit season they used about 20,000 feet of 2 x 4 material.

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### Half a Loaf is Better than No Loaf, But- By Thornton T. Munger, Pacific Northwest Exp. Sta.

A full stand of trees is better than half a stand. Yet how many of our forests are but half stocked or irregularly stocked; here a dense thick-et of young trees, and there a blank space; a single open-grown knotty tree where there might be a half dozen thrifty poles; or weed trees occupying the ground that might be filled with desired species. A piece of cut-over land or an old burn may look green and tree clad and goes as "reforesting" or "satisfactory second growth," when perhaps close analysis would show that it wasn't producing either the quality or the quantity it should. Of course it is a lot better to have even such a stand than none at all.

The public and the timber fraternity should be educated to understand that foresters are not satisfied with such half stands as Nature may produce accidentally. To get the maximum quality and quantity of wood crops per acre is where the art of forestry comes in. That is where foresters can "improve on Nature."

Good farmers are not content with fields that have but one spear of grass where there should be two, or with herds whose increase is half of the possible. It is the half crops that fail to pay expenses and only the full crops that yield the dividends.



Just because there are 500 or 1000 little seedlings per acre on a cut-over area or an old burn does not mean that all is well. It is a great satisfaction to find them, but do not forget that it is not 100 per cent good forestry unless they are well spaced, of the right species, are established, and are in number sufficient to yield the maximum wood volume compatible with quality. In selection cuttings in yellow pine are we not prone to look with admiration at the dense clumps of thrifty advance reproduction and overlook the intervening gaps of a quarter acre laid bare by ax, hoof, wheels, or brush pile fires?

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#### How to Foil Mountain Lions

For the benefit of foresters who may find themselves in a similar predicament, the following incident is related:

One of the grazing men of the Forest Service working in an especially wild portion of the West not long ago found himself pursued by a large mountain lion, which followed him stealthily at a distance, presumably waiting until nightfall before making an attack. The grazing man noted the animal, tried to elude him by doubling on his tracks, but it would not be shaken off. Fortunately, the Forest officer was not very familiar with the local flora in the place where he was working, and had with him a copy of Coulter and Nelson's botany. Opening the book, he turned to page 426 - the mint family - and read down the list of plants until he came to Nepeta Cataria. He tore the page out and threw it behind him on the trail. When the mountain lion came along it discovered this unusual object and started to investigate. Very naturally it became highly interested in the description of catnip given there and while engaged in this perusal was eluded by the wily Forest officer.

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#### An Experiment in Competition

An experiment is being carried on at the Coastal Plain Experiment Station at McNeill, Mississippi, to determine whether cattle and trees can be raised successfully on the same acres, and also to demonstrate whether, as is believed, fire is almost as much of an enemy to the stockmen as to the timber grower. In this study the Southern Forest Experiment Station, with headquarters in New Orleans and field stations in various forest areas of the South, is cooperating with other Bureaus of the Department of Agriculture.

"It is not expected," stated one of the Forest Service men during a recent inspection trip, "that trees will ever be any advantage to an improved pasture; but the Forest Service believes that on hundreds of thousands of acres of cut-over piney-woods land there is excellent grazing for beef stock, without harm to a fine growth of longleaf pine, and perhaps other pines, provided fire protection is maintained."

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In the recent ranger examination for 1924, a few of the bright spots are:

Back-firing: Fire whirling back by force of wind.

Saw Kerf: Is the thing of no use for lumber.

Geographic location: National Forests are located in the northwest and southwest except the Forests located in Washington, D. C.

One applicant stated that he would like to become a Forest Ranger because he would look well in the Forest Service uniform.

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#### Strength Contest Between Douglas Fir and Southern Pine

Twenty Douglas fir timbers almost 12 inches square and 24 feet long were recently tested for their strength as a column in the million-pound testing machine in the timber mechanics section of the Forest Products Laboratory.

These columns have been air seasoning since they were received from the Douglas fir region on the coast two years ago. Twenty columns were tested when green shortly after their receipt.

Similar tests have also been made of southern yellow pine timbers in a green and air seasoned state. In general, comparatively little difference in strength properties has developed between the two species.

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#### Forest Insects in Motion Pictures

The Branch of Forest Insects, Bureau of Entomology, Washington, D.C., has just completed the filming of insects at work in the forests, showing them destroying the green timber after the trees have been felled; also injury to lead cables and seasoned wood products. Scenes depicting methods of control have also been included.

In a former picture, "Fighting Western Pine Beetles," the insects are shown at work killing the living western yellow pine trees and the methods which the Department is using in its control.

Films relating to entomology and allied subjects may be obtained without cost other than that of transportation through the Motion Picture Laboratory, Department of Agriculture, Washington, D. C.



### Better Crates

The universal use of crates is indicated by an estimate made by one writer that there are in common use to-day 40 styles of cabbage crates, 30 varieties of lettuce crates, 20 different kinds of celery crates, and 15 styles and sizes of round-stave baskets. More than 316 million crates were shipped over American railways in 1923 and more than  $4\frac{1}{2}$  billion board feet of lumber are used annually in the manufacture of boxes and crates.

Losses in failures of crates during shipment now cost the railroads in the United States not less than \$3,800,000, it is estimated; and this includes only claims actually paid.

Great as these losses are, improved crating methods through better nailing, better design, and improved packing methods have done much to reduce losses. A large share of the saving as well as a reduction in size of crate members has been possible through the 3-way corner construction and diagonal bracing.

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### Porto Rico Asks Clarke-McNary Cooperation

A request for cooperation under the Clarke-McNary Law has been received from the Commissioner of Agriculture of Porto Rico. The appropriation by Porto Rico for forestry work is \$35,000, of which \$10,000 is devoted to nursery and planting activities. The Commissioner is much interested in the possibilities for planting on a large scale. There is a surprising amount of land on the Island which has been denuded and has failed to come back to tree growth. On the other hand, plantations of all sorts of species appear to have been very successful. The proposed cooperative work under the Clarke-McNary law would be carried out under the direction of the Supervisor of the Luquillo National Forest.

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### Norway Pine Has Bumper Crop of Cones

A bumper crop of Norway pine cones this fall has kept the seed extraction plant of the Cloquet Forest Experiment Station busy ever since the cones came piling in to a total of over 500 bushels. In the Lake States, Norway pine has proved itself to be an excellent tree when planted on a large scale for forest purposes. The main difficulty with raising the tree in the nursery has been the high cost of the seed due to its scarcity, for the Norway pine bears cones only at irregular intervals of several years. The present large crop is therefore a matter of considerable interest to all engaged in reforestation projects. Most of the cones sent in for extraction at Cloquet came from the Minnesota State Forest Service and the seed produced will be used in the State nurseries.

A bushel of Norway pine cones yields roughly a pound of seed. The seeds are small and light, and run from 55,000 to 70,000 to the pound, of which, in the case of good average seed, about 85 to 90 per cent can be counted on to germinate under normal conditions. This means something like 30,000,000 little Norway pines growing up on the Minnesota State Forests in the next few seasons from the seed extracted this year at Cloquet.

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#### Fall Planting as an Economy in Raising Western White Pine

From 40 to 70 per cent of the expense of raising western white pine seedlings from the time of planting until the seedlings come up and are ready for transplanting, can be saved by planting the seeds in the fall instead of in the spring, according to Forest Examiner W. G. Wahlenberg of the Wind River Forest Experiment Station at Missoula.

Spring-sown western white pine is very liable not to germinate until the second season after sowing, from one-half to nine-tenths of the seed failing to come up the first season. Those that do come up the first year are often too young by the time hot dry weather comes to withstand these trying conditions. Losses of stock in this way, as well as the expense of maintaining shade frames, mulching operations for an additional season, and all the other care that seed beds must be given until the seedlings are well established, can be saved by the simple means of fall sowing.

At the Savenac Nursery, where the experiments were conducted, \$250 was saved in one season on shade frames and mulch alone. This and other savings are of considerable importance in this nursery, where 3,000,000 plants are ready annually for forest planting and the growing stock on hand amounts to 10,000,000 plants.

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## MISCELLANEOUS

### Meeting of the American Forestry Association

Shirley M. Allen, Secretary

On January 22nd The American Forestry Association celebrated its Fiftieth Anniversary by going back to Chicago, the city where it was started in 1875. The Illinois Forestry Association, the Hamilton and the Union League Club acted as hosts. Prominent on the program were Colonel William B. Greeley, E. T. Allen of the Western Forestry and Conservation Association, and Ex-Governor Frank G. Lowden of Illinois.

Among the interesting addresses was that of George D. Pratt, President of the Association, in which he sketched briefly the history of this organization. One incident recounted touched an enthusiastic meeting that the association held in Quebec in 1890. During this gathering while Dr. B. E. Fernow was reading a paper, the old Huron Indian, Chief Thomas Siouhi, entered the hall with his son, clad in full Indian costume. When the paper was ended the Chief rose and said, "We are the children of the Forest and are come to welcome the friends of the Forest. Since I was sixteen years old the Forest has been my country. I have lived in it and I hope to die in it. We are not numerous. We will gradually disappear like the great trees of our Forests. Protect us and our Forests and you will have the prayers of the Hurons and the gratitude of their hearts."

The first notable accomplishment of The American Forestry Association was securing the passage of a law giving the President authority to establish Forest Reserves from the public domain. This took place in 1891. Mr. Pratt made a strong appeal for aggressive support of the association's Forty Million Dollar Program for National Forest purchase now before Congress in the McNary-Woodruff bill.

Colonel Greeley's address took the form of an exposition of the Clarke-McNary Law, in which he pointed out that the principle of cooperation was paramount: "The scheme of cooperation must recognize the individual sovereignty of the State. The problem of each State is to develop its forest protection policy in accordance with its own ideas and experience. We want this scheme to bring Federal aid and constructive sympathetic Federal help including the educational features, as one of its most important phases."

Mr. Lowden, who spoke at the banquet in the evening, made a statement which will go down in history as a great utterance in conservation literature. It was: "No man holds a good enough title to an acre of land anywhere that he has the right to bequeath it at the end of his life in less fruitful condition than when it came into his possession."

Among the other speakers on the program were Henry J. Cowles, President, Illinois Forestry Association, Alexander Pye, President, Hamilton Club, William L. Hill of the Union League Club, Stephen A. Forbes, Chief

State Laboratory of Natural History, Mrs. Theron Jolton, Chicago Woman's Club, George B. Stephenson, Scout Executive, Boy Scouts of America, Chairman, Henry S. Graves, Provost, Yale University, P. S. Lovejoy, Michigan Forestry Association, J. M. Jonzet, State Forester of Minnesota, Wilson Jompton, Secretary, National Lumber Manufacturers Association, Herman Lundén, Chairman, Michigan Conservation Commission, George W. Sisson, American Pulp and Paper Association, Chauncy J. Hamlin, Chairman, National Conference on Outdoor Recreation, J. H. McDowell, Chairman, Reforestation Committee, American Engineering Council, Raphael Zon, Director, Lake State Forest Experiment Station, Mrs. Francis E. Whitely, General Federation of Women's Clubs and Richard H. Little, Chicago Tribune.

Resolutions were adopted favoring increased appropriations under the Clarke-McNary Law, re-affirming the faith of the association in the enlarged program for the acquisition of National Forest land, urging the passage of the Public Shooting Grounds bill, urging provision for Recreational use of public forests, expressing regret at the death of David L. Goodville, Chicago, who passed away after his election as one of the Directors of the association, and a final resolution expressing the thanks of the association to its hosts.

There were more than two hundred in attendance.

#### Southern Pine Losses

At the request of several lumber companies and turpentine operators an investigation was made by R. M. St. George, November 22 to December 20, to determine the cause of the death of some 70,000,000 feet of pine timber extending over a territory from Alabama to Texas. Most of the dead and dying timber is located in western Texas, centered about Angelina County, but a considerable portion is in Louisiana. It was found that the various species of pine trees (longleaf, shortleaf, loblolly and slash pine) were dying from the combined effects of such agencies as drought, fire and turpentine. Bark beetles, usually of secondary importance (Ips avulsus, I. calligraphus, and I. grandicollis), attacked the trees while their tops were still green. A little later the trees turned brown and died. A preliminary study indicated that probably little summerwood had been added this year and that the drought was the primary cause of the death of the trees. Most of the trees appear to have died within the last three months.--Bureau of Entomology, Monthly Letter.



Annual Meeting of the Society of American Foresters  
R. V. Reynolds, Secretary

The twenty-fourth annual meeting of the Society of American Foresters was held on December 30 and 31, in the Library of Central High School, Washington, D. C.

The general plan of the program was a review of the development of forestry in the United States, a sober estimate of the present standing and achievements of the profession, and a forward glance at the ways and means of future accomplishment adapted to American needs. With this plan in mind a dozen speakers covered some of the principal subjects in the wide field of forestry, while others commented briefly and amplified the ideas of the principals.

The audience consisted of what was probably the largest assemblage of professional foresters ever convened in the United States, including Federal and State officials, foresters in private and corporate employ, and the leading educators from the foremost technical schools. The registered attendance was 182, representing 12 of the 14 Sections composing the society, and came from 23 States, the District of Columbia, and Canada.

Several of the events which occurred or were reported show that the society has developed from a small organization which began within the limits of the present Washington Section to a technical society of national and international scope. The membership has tripled since 1917, and now amounts to 1,094 members in six grades. Before the Annual Meeting the Executive Council held session for two days, at which it was decided to employ an executive secretary on part time as a preliminary step to an eventual increase of dues and the employment of a full-time secretary. The council is unanimous in considering this project essential to the proper management of the increased business and desirable extensions of service to members.

The Journal of Forestry, previously issued eight times yearly, will be published monthly in 1925.

A standing committee on International Relations in Forestry, with S. T. Dana, Chairman, was established to function, in accordance with its title, in cooperation with the National Research Council, the International Institute of Agriculture, the Tropical Plant Research Foundation, and other organizations having foreign contacts.

One of the most enjoyable events of the meeting was a smoker held at the Cosmos Club on the evening of December 30, at which all visiting and local foresters were the guests of the Washington Section and an Entertainment Committee organized by the United States Forest Service. Over 200 men attended, heard short addresses and music, watched motion pictures related to forestry and conservation, sang the songs of undergraduate days, and consumed vast quantities of refreshments and tobacco. Here the comradeships of camp and field were renewed. Old friends met after years of separation, and new attachments were formed.

The election of officers for 1925 resulted in: S. T. Dana, President; R. T. Fisher, re-elected Vice President; J. G. Smith, Secretary; J. R. Tillotson, Treasurer.

### The Bridge Builder

An old man, traveling a lone highway,  
Came at the evening cold and gray,  
To a chasm vast and deep and wide.  
The old man crossed in the twilight dim,  
For the sullen stream held no fear for him.  
But he turned when he reached the other side  
And builded a bridge to span the tide.  
"Old man," cried a fellow pilgrim near,  
"You are wasting your strength with building here.  
Your journey will end with the ending day  
And you never again will pass this way;  
You have crossed the chasm deep and wide,  
Why build you this bridge at eventide?"

And the builder raised his old gray head,  
"Good friend, on the path I have come," he said,  
"There followeth after me to-day  
A youth whose feet will pass this way.  
This stream, which has been as naught to me,  
To that fair-haired boy may a pitfall be,  
He, too, must cross in the twilight dim;  
Good friend, I am building this bridge for him."--

The Timberman.

### President Nationalizes Living Christmas Tree

When President Calvin Coolidge turned on the lights of the Nation's Christmas tree, in Washington, on Christmas Eve, the symbol of the message of good will and cheer sent far and wide over the country became, for the first time, a living tree. Instead of the cut tree, whose speedy destiny following Christmas festivities is the waste heap, a thirty-five-foot living spruce was planted on this occasion on a spot just south of the Treasury Building, where it will remain for use in Christmases to come. Under the direction of the Community Center Department of the Public Schools of the District of Columbia, this tree was dedicated to the nation and added to the other nationally owned treasures of the country's capital. The tree was a gift of The American Forestry Association to the people of Washington and the Nation.

The American Forestry Association has inaugurated the campaign urging the use of living Christmas trees as a conservation measure and



one in harmony with the early significance of the Christmas tree - "The sign of endless life, for its leaves are evergreen." The transporting of this monster tree from Amawalk, New York, demonstrated conclusively that living trees, even of great size, may be practicably dedicated to Christmas and preserved for this use from year to year.--American Forests and Forest Life.

#### Don't Knock the Weather

A lookout watcher sitting in his tower on a damp day took out his knife, put a fine point on his pencil and commenced to figure on a piece of wrapping paper which was on his map table. This is what he found out. If we have 1,000 fires a year and it is only dry enough to start a fire about 7 hours a day on 120 days of the year, or on 840 hours out of the total of 8,760 hours of the year, then in the same ratio there might have been 10,421 fires altogether, of which 9,581 fires were put out by the weather before they started. If 1,000 fires burn 50,000 acres a year then the weather saves 479,050 acres of forest a year.--N.J. Forestry News.

#### Artificial Wood

In an issue of the Scientific American an article states that a Norwegian scientist has succeeded in making a new kind of artificial wood. A mixture of sawdust with chalk and chemicals is used for this purpose. The wood contains about 50 per cent sawdust. The mixture is subjected to high pressure, and a product is thus obtained which possesses all the qualities of genuine timber. The specific gravity of the wood is the same as that of real wood; its hardness is like that of the oak.--P.I. Haxiling Echo.

#### Policies of Law Enforcement in Fire Prevention ... A. Ferguson, Oregon Forest Fire Association

Records compiled from this year's reports from the States of California, Oregon, Washington, Idaho, and Montana show that out of a total of 4,955 fires, 4,399 or 89 per cent were man caused.

Every one of these fires is due to someone's violation of the law.

We cannot hope to control the use of fire or eliminate the chief cause of our disastrous fires without resorting to our courts.

While it is imperative that changes be made in the fire laws we cannot expect to gain any desired results, irrespective of how applicable revised laws may be, without a forest constabulary to see that these laws are strictly enforced.

If through our educational and advertising campaign we gain nine out of every ten citizens as co-workers and this one disregards the fire laws without being made to pay a just penalty, we can only expect desertions from the ranks, certainly not the enlistment of the violator.

Leniency to the criminal, in either prosecution or penalty, has always promoted rather than discouraged crime.

The logging operator, the settler and the forest visitor not only use fire for different purposes, but are different themselves in every way. They talk different languages. The officer eminently fitted to deal with anyone will not be the best to deal with the other two. I would then develop three types of officers and assign them accordingly.

These officers should have no responsibility in the suppression of fire, but be in a position to devote their entire time to cases after arrest is made. It is splendid practice to arraign a violator and secure a plea to the crime charged, when the evidence of his violation is still burning.

Forest protection agencies must make balanced provision for law enforcement forces as systematically trained and strong as are the forces for detecting and suppressing fires. This can be done only by training specialists to do it. No amount of instruction, moreover, will make the man of the type most useful as a warden or ranger equally good as detective, prosecutor and agent to obtain law observance. They are different types. It is hard to find the right type who is also a woodsman, but they must be found and probably employed separately from the fire suppression forces.

There is something wrong with a system that employs thousands of men to deal with the consequences of law violation but has not produced twenty men peculiarly fitted to deal with the inveterate violator, or put these twenty on that job unhampered by other duty.

In selecting men for the enforcement of our fire laws, we should be sure that they possess sufficient ability and diplomacy to enforce the laws and prosecute violators, at the same time holding or even increasing the favorable opinion held by the citizens of the community. In doing this it is essential that citizens be made to realize the seriousness of violations, that they may regard violators of the fire laws as they now regard other criminals. This cannot be accomplished without also establishing this same regard in the minds of prosecutors and judges.

No doubt the public mind generally is against the forest fire evil, but public propaganda, besides its customary appeal for care by normal citizens, must demand of them, in court as well as out, the same attitude toward those who continue careless with fire in the woods that decent people have toward the deliberate incendiary or thief. This is the case in some countries. They have mighty little fire."--Taken from address delivered before the Fourteenth Annual Meeting of the Western Forestry and Conservation Association in Vancouver, B. C., in the Lumber World Review.



### Relics of Yesterday

Petrified logs of ancient yellow pine have been found near Torrey Pines Park, just outside of San Diego, California. Scientists claim the fossils are remnants of pre-glacial Torrey pines, and may lead to other scientific discoveries. Some of the fossil logs are as large as 18 inches in diameter and 3 feet long. They were discovered accidentally. Excavation of the site will be carried on with the hope of discovering other fossil remains. The logs are said to be in a fine state of preservation, with the grain and the annual rings distinct.--American Lumberman.

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### WOOD SHIPPING IN ANTHRACITE MINES

For many years it has been the policy of anthracite operators to use massive oak and chestnut beams to support the enormous weight of the roofs in anthracite mines. In the last few years these massive timbers have become so expensive that steel beams are being used in place of wood. Steel work is not only more satisfactory than wood, but it is more durable. To-day pit props are selling at almost a prohibitive price, and mine owners are substituting small sized beams or using second-hand railroad rails to "timber" their mines. The mining industry of Pennsylvania will come more and more to the use of steel mine supports as wood increases in price. Some companies are far-sighted enough to see that the supply of available wood for mine timbering is rapidly being exhausted and are reforesting their land. In twenty to thirty years they will begin to harvest their first crop of mine timbers.--J. D. Sisler, Penn. Service Letter.

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### Any Lady Tourists Missing?

The following is taken from the fish and game report submitted by one of the Forest Rangers:

The deer hide was located, but it was part of one which had lain in the willows through the winter and probably came from the carcass of a deer which died of natural death during the winter of 1923-1924.--Rocky Mountain District Bulletin.

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Forty-five per cent of all the lumber in the United States is used in States which produce less than ten per cent. Thirty-three of our States are dependent upon other States for wood.

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### Portable Pumps for Fighting Forest Fires

Possibilities in the use of portable pumping units for fighting forest fires loom larger than ever before as a result of 1924 experience. The value of water in quenching fire is, of course, universally known, but actually employing it on forest fires has been impeded until recently by lack of suitable equipment and the belief that water is less available than it really is.

At present there are four makes of portable units on the market. At least 100 outfits were sold before and during the past fire season. These sales have had the valuable effect of awakening manufacturers and spurring them to improving their products. Three major qualities are set up as desirable in a pumping unit: (1) Reliability; (2) portability; (3) durability. Important also are first cost and ease with which repairs and parts may be obtained. Actual running expense (gas and oil) is almost negligible.

No company has succeeded in embodying in its machine all of the major qualities to the extent desirable. Internal combustion engines are temperamental, and light, two-cycle ones are especially so. Failure to start, burned-out bearings and magneto trouble are all too common.

As to water supply, it is truly surprising how many places there are from which a few hours of steady pumping can be had. A notable instance of this occurred last summer on the Columbia National Forest, Oregon. A tiny stream, which at first seemed too small to warrant consideration, was dammed and found capable of supplying a pump about six hours out of every eleven. From this source water was pumped against a low head a distance of about 5,000 feet, whence it was relayed by a second pump an additional 5,000 feet and used to most excellent advantage.

In the preparation of fire plans pump settings should be worked out in advance as are the other features of successful fire fighting.--Taken from an article by Shirley Buck, U. S. Forest Service, in The Timberman.

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Almost everyone knows what excelsior is, although a very small percentage indeed of the lumbermen of the United States are in personal touch with its manufacture from wood. They will probably be surprised to know that the Census Bureau estimates the annual production at \$5,361,830, of which amount a little over one million dollars represents the product further manufactured into excelsior pads and wrappings. There were 75 establishments reporting in 1923. Of these 13 were in Virginia, 12 in New York, 7 in Wisconsin, 8 in New Hampshire, 4 each in Georgia and Michigan, and the remaining 23 plants scattered in nineteen States, only three of which - California, Oregon and Washington - were on the Pacific Coast.--Lumber World Review.

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A firewarden's wife asks the question: Is a log jam a forest preserve?--Conn. Wooden Nutmeg.

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#### Hawaiian Forest Reserve Enlarged

Ernest B. Clark, Secretary, Honolulu Chamber of Commerce, cabled the Bureau of Foreign and Domestic Commerce, Washington, D. C., on January 17 that the Agricultural Board had approved expanding the Oahu Forest Reserve forty-seven square miles to include the mountain ranges conserving the water supply. The Forest reserves of the Territory of Hawaii total eight hundred thousand acres. This includes a half million acres of Government land and 300 thousand acres of private ownership surrendered. The question of water conservation is a vital one, since irrigation and the supply for domestic purposes are involved.

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#### More "Pluted" Forestry

In "Report upon Forestry" by F. B. Hough in 1882, which is a report on his studies in the West made to the United States Department of Agriculture, I find the following account by William Phillips, a pioneer of Clackamas, Oregon:

"When I came to this country in 1846, it was almost perfect in all its wildness. With a few exceptions, not a tree or a shrub had been touched by the hand of man. Thousands of wild Indians roved over the prairies or hunted game in the almost impenetrable forests. No fires had run in these forests for hundreds of years, the Indians being careful not to let fire get out, lest the grass should be burned from their horses, of which they had thousands, or lest the game should be driven from the forest in their section of the country. Large trees, 3 or 4 feet in diameter, stood in these forests, with the accumulated debris of hundreds of years lying thick around their base, with not a sign of fire about them. But early in the summer of 1847, when the immigrants, who had set out to seek homesteads for themselves began to arrive, fires got started in the forests, and the summer being dry they burned through the whole summer. Millions of acres of as fine forest timber as can be found on earth to-day were burned over and killed. Whole forests of red and yellow fir, of the giant arbor-vitae, and of hemlock and tamarack were destroyed by these raging fires. The smoke was so thick that we could scarcely see the sun at midday, and people complained of sore eyes and oppressed breathing. The ashes carried by the winds became a nuisance in and about our houses. But at length the fall rains came, put out the fires and drove away the smoke, so that the people could breath freely again and get a view of the country, and of the ruins of the forests which had been her greatest boast. A million of dollars would not repair the damages done by fire during that season."--L.A.B.

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National Forestry Program Committee Works on State Legislation  
Shirley M. Allen, American Forestry Association.

The subcommittee which was appointed by the National Forestry Program Committee to cooperate with other agencies interested in furthering State Forestry Legislation met recently in the office of the Chairman, Wilson Compton, who represents the National Lumber Manufacturers Association. The other members are Philip W. Ayres of the Society for the Protection of New Hampshire Forests, Charles Lathrop Pack, of the American Nature Association and Shirley M. Allen of the American Forestry Association. The committee is busy drawing up a set of broad principles which it believes may help to guide State legislation. It is preparing to cooperate with the Associated Advertising Clubs of the World and other agencies in stimulating State activity.

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Gray Squirrel in Role of Tree Planter

"The gray squirrel is the greatest planter of nut-bearing trees in the world. In storing up nuts for the winter he buries hundreds more than he ever digs up. These nuts germinate and make the seedling trees of the forest. A company of gray squirrels can cover barren hillsides with trees. They bury the nuts deep and cover them well. The nuts get a firm hold and the trees grow strongly and surely. Curious what ignorance we show regarding our little helpers of the animal kingdom. We need more natural history taught in the schools and more consistency in our so-called conservation work."--La. Conservation News.

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Mahogany in Nicaragua

George F. Salinas, of the Nicaraguan Consular Service, who is in New York on a visit, expressed surprise at the growing scarcity of mahogany furniture in the United States. He also expressed regret that Nicaragua is so far away from the United States as to make a general supply of mahogany at reasonable prices impracticable, for mahogany, red woods and hard oaks make up a large part of Nicaragua's natural wealth, and even the poorest homes are stocked with amazingly fine pieces of furniture made of the richly colored wood. So durable are the woods that they last for generations, and the furniture is massive, solid wood through and through, and for the most part hand carved.--American Lumberman.

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### Tree Planting in the Holy Land

The treeless slopes and valleys of Palestine are gradually being reforested, according to an official statement which states that nearly 3,000,000 trees and 1,000,000 vines have been planted in the Holy Land between 1920 and 1924. Palestine became denuded of its forests owing to Turkish misrule and neglect, which resulted in the abrasion of some of the best soil from the hillsides and in the accumulation of malaria swamps in the valleys.

The work of afforestation began forty years ago when the first Jewish settlements were founded, but received a great impetus after the war when, under the British mandate, greater opportunities for development were opened for Jews. The government department of agriculture planted 1,285,062 trees during the past four years; the Palestine foundation fund, affiliated agencies of the World Zionist organization, 672,933 trees; the supreme Moslem council, 14,700; while the balance were planted by individuals, mostly settlers on the Jewish agricultural colonies.

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Hardwood newsprint has been produced at the United States Forest Products Laboratory in Madison, Wisconsin. The process, however, has not yet been tried on a practical scale, but in the experiments a ton of newsprint was produced from nine-tenths of a cord of hardwood. Black gum, poplar and birch have been used with equal success. Commercial newsprint is made from spruce, the supply of which is said to be rapidly diminishing.--American Lumberman.

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### Rotten Wood Used for Polishing Watch Parts S. J. Record

An interesting use of rotten wood is in the polishing of the fine parts of the highest grade Swiss and French watches. Formerly this material was more extensively employed than at present, being largely supplanted by machinery and benzine. The escape parts and small screws are still in large part polished by hand and rotten wood. The value of the rotten wood used annually in Switzerland for this purpose is about four thousand dollars, the best quality bringing a price of one dollar per pound. What is wanted is a yellowish-white silky material, soft and spongy, in which the growth rings are still visible.--American Forests and Forest Life.

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Negligence of our standing timber does more than defraud posterity; it destroys one of the chief assets in a commonwealth of magnificent natural resources.--Philadelphia Public Ledger.

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Meeting of the Southern Forestry Congress  
E. A. Sherman, U. S. Forest Service

The seventh annual meeting of the Southern Forestry Congress was held at the Hotel Marion, Little Rock, Arkansas, January 19-21.

The first session was devoted to State Forestry legislation, J. G. Peters, Chief of Forest Management, U. S. Forest Service, presenting the problem and presiding. Able addresses were delivered by Joseph R. Hamlen, President of the Arkansas Honorary Forestry Commission; Dr. A. J. Millar, Secretary of the Commission; State Forester Page S. Bunker of Alabama; State Senator Henry E. Hardtner of the Louisiana State Forest Commission; and George Vaughn of the National Tax Association.

The afternoon session was devoted to "Forestry Problems in Short-leaf Pine," Dr. Frederick Dunlap of Columbia, Missouri, leading and presiding. Others on the program were: C. C. Axley of the Arkansas Soft Pine Bureau, Warren, Arkansas; Forest Supervisor Charles A. Plymale, Arkansas National Forest; W. L. Williams, Forester for the Crossett Lumber Company of Crossett, Arkansas; and Director I. D. Forbes of the Southern Forest Experiment Station, New Orleans, Louisiana.

A get-together dinner at the Marion Hotel was the event of the evening, short talks being made by Associate Forester E. A. Sherman, U. S. Forest Service, Dr. Herman von Schrenck of the Missouri Botanical Garden, St. Louis, and H. N. Wheeler of the U. S. Forest Service.

The session Tuesday morning was opened with an address, "National Forests as a Part of a Southern Forestry Program," by Shirley Allen of the American Forestry Association. The leading subjects taken up by the Congress were (a) problems in the production of hardwood timber, and (b) paper and pulp industry of the South. J. B. Woods of the Long-Bell Lumber Company presented a paper on "Louisiana and Arkansas Hardwoods." Vance P. Edwards of the Forest Products Laboratory, Madison, Wisconsin, spoke on "Why Not More Kinds of Southern Paper?", and J. H. Allen of the National Tie and Lumber Company spoke on the "Future of Southern Paper Production." Some of the most interesting and valuable points presented to the Congress came out in the informal discussions.

The Congress voted to hold its next annual meeting at Richmond, Virginia. The following officers were elected for the ensuing year:

President - Morace L. Tilghman, Tilghman Lumber Corporation, Sellers, S. C.

Vice President - Dr. A. J. Millar, Secretary Arkansas Honorary Forestry Commission, Little Rock, Ark.

Secretary - W. K. Williams, Crossett Lumber Company, Crossett, Ark.

Assistant Secretary - A. B. Hastings, Charlottesville, Va.



RECENT NEWS

Dr. Jarl A. Schenck, well known to the American Forestry profession as the founder of the Biltmore Forestry School, is making his first official appearance in the United States since he went to Germany ten years ago. He gave a series of lectures at the New York State College of Forestry, Syracuse University, and attended the Conference of Forest Schools in Washington, D. C., where he stayed for the annual meeting of the Society of American Foresters on December 30 and 31. During the week of January 8-9, Dr. Schenck lectured to the faculty and students at the State Forest School at Mont Alto, Pennsylvania, and later at the Department of Forestry, Cornell University. After a series of lectures in the New England states, he will start on a westward trip which will take him to the Pacific Coast where he will be the guest of the old Biltmore boys.

Early in March Dr. Schenck will return to Pennsylvania to address the Allegheny Section, Society of American Foresters. He reports a wonderful time and is immensely pleased with the reception which has been given him by American foresters, among whom he has many friends. He plans to return to Germany the latter part of March and may take with him a small group of students on a study tour through the forests of central Europe.

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Theodore J. Schokke has been elected a member of the Society of American Foresters. Schokke is Superintendent of Forests of the Hawaiian Islands.

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J. F. Preston, Forest Inspector, has resigned from the U. S. Forest Service to accept a position with the Hammernill Paper Company, Erie, Pennsylvania.

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Professor Jarl C. Forsaith, Department of Wood Technology, New York State College of Forestry, Syracuse University, has accepted an offer from the English Government through the Imperial Forestry Institute at the University of Oxford to organize a department of Wood Technology at Oxford. He will leave the college of forestry at the end of the present semester and sail in June from Montreal.

Dr. Forsaith graduated from Dartmouth in 1913 with the degree A.B. Subsequently he won his degrees A. M. and Ph. D. at Harvard.

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Charles Lathrop Pack, President of the American Tree Association, has endowed a Charles Lathrop Pack Foundation Forestry prize at the University of Wisconsin, Syracuse University, Cornell University, Yale University, Penn. State College, University of Michigan, University of Washington, University of California, and the University of Minnesota.

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Henry W. Hicock has been elected to senior membership in the Society of American Foresters. Hicock is Assistant Forester at the Connecticut Agricultural Experiment Station under Walter C. Filley and has charge of the Blister Rust work in the State.

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James H. Hull is writing a book for Doubleday, Page and Company, to be entitled "Trail and Pack Horse," and is under contract to do two more boys' books with forestry settings for the same publishers. He recently published an article in Boys' Life on "Opportunities in the Forest Service" which is a very concise and comprehensive statement of facts regarding the work of the various grades of officers in the Service and the conditions which surround it.

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Dr. M. J. Merrill, former Director of Forestry Publications for the Forest Service, is now Assistant Director of Publications, in charge of Scientific and Technical Manuscripts of the Department of Agriculture.

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Franklin W. Reed resigned as District Forester for the Eastern District, U. S. Forest Service, on December 31, to engage in private professional forestry in the East and South. Mr. Reed entered the Forest Service in 1902.

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Evan W. Kelley, Inspector, U. S. Forest Service, was appointed District Forester for the Eastern District to succeed Mr. Reed.

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P. L. Buttrick is the author of an interesting pamphlet entitled, "The Mountain Laurel, a Forest Plant." Foresters would do well to read this same, practical and useful description of the place of mountain laurel in forest management in Connecticut.

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At the time of the Annual Meeting of the Society of American Foresters at Washington, Mr. J. P. Kinney, assisted by his wife and daughters, arranged a reunion luncheon for a number of the former students of New York State College of Forestry at Cornell and now connected with the Department of Forestry at Cornell. Those present to enjoy Mr. Kinney's hospitality and to talk over old times were: Walter Mulford, Earl Clapp, Clyde Leavitt, Ralph Bryant, W. R. Mattoon, Karl Pfeiffer, Nelson Spaeth, C. H. Guise, A. B. Recknagel, R. M. Brown, F. E. Jobb, and the host.

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Wm. Crosby has been elected to senior membership in the Society of American Foresters. Crosby has for years been in the Philippine Forest Service and occupies an important position as Chief of Working Plans.

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Julius A. Larsen, for many years in research work in the U. S. Forest Service, Missoula, Montana, has resigned to accept a position at Iowa State College at Ames, Iowa. Mr. Larsen has had broad training and experience in forestry and has traveled and studied in Norway, Denmark, and Germany.

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Hon. Francis X. Disney, former Deputy Attorney General, New York, has been appointed Deputy Conservation Commissioner to succeed C. Tracey Stagg, resigned.

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Mr. George B. Gordon has been appointed Assistant Forester of New Jersey, effective January 1, 1925. Mr. Gordon, who is a 1920 forestry graduate of Cornell University, has worked for the last year and a half as Forest Inspector of the Pennsylvania Railroad Company. Previous to that he was in the West for two years, with the U. S. Forest Service and the Fruit Growers Supply Company. He also spent a year with the J. A. Mahlstedt Lumber Company.--

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W. A. Jackson, Jr., has recently been appointed State Forester for Kentucky, with headquarters at Frankfort. Mr. Jackson is a native of Kentucky and a graduate of the Biltmore Forest School.

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Professor Julian Rafalski, professor of forest engineering at the Government Forest School at Pozna, Poland, recently spent a few weeks in the United States visiting some of the forest schools and studying lumbering methods in the eastern part of the country.

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Austin F. Hawes, State Forester of Connecticut, has published a pamphlet, "The Work of a Forest Protective Association," which is a very useful resume of the functions which such protective associations can perform in securing more efficient protection of private property from fire. The various methods of fire fighting are outlined in this pamphlet, which also touches upon protection against insect diseases and theft.

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Assistant Forester N. T. Kossler of New Jersey was recently elected to membership in the Society of American Foresters.

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District Ranger H. A. Teal, New York Conservation Commission, reports that there is to be a meeting soon of the Town Board of the town of Berlin, Rensselaer County, at which will be appointed a committee to take care of the reforestation movement for the town. About 50 acres of land will be planted.

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## ARTICLES, BIBLIOGRAPHIES, AND PUBLICATIONS

### Recent Books on Forestry

Hemlock: Its Place in the Silviculture of the Southern New England Forest.  
By Perry H. Merrill, Research Fellow, Yale University, and Ralph C.  
Hawley, Professor of Forestry, Yale University. Yale University School  
of Forestry, Bulletin #12, 1924.

Historical Trees of the State of New York. New York State College of  
Forestry, Syracuse University, 1923.

The Forest Poetic (new edition), by G. L. Pack, American Tree Associa-  
tion, 1924.

Chemical Treasures of the Forest. By L. E. Wise, American Forestry  
Association, 1924.

Kiln Drying of Western Australian Hardwoods, with notes on the testing  
of seasoned timber. (Western Australia Forests Dept. Bulletin #28.)

Timbers: Their Structure and Identification. By W. S. Jones, Oxford,  
England, 1924.

Practical Forestry from a Workman's Point of View, by A. J. Drummie,  
London, G. Routledge, 1924.

Les Eaux et Les Bois, by H. Lafosse. Paris, Payot, 1924.

A History of the Public Land Policies, by Benjamin H. Hibbard, of the  
University of Wisconsin, has been published by the MacMillan Company  
of New York. It is one of a series comprising the "Land Economic  
Series." Chapter 19 deals with "The Timber Culture Act" and Chapter  
21 with "Disposal of Timber and Timberlands."

The Forests of Finland: the Forest Resources and the Condition of the  
Forests, by Y. Ilvessalo, Helsinki, 1924.

Timber and Timber Products, Including Paper Making Materials. Federation  
of British Industries. London, E. Benn, Ltd., 1924. (The Resources  
of the Empire series, Vol. 2).

Articles in Current Periodicals

- A Contrast in Kiln Results, by J. P. Klinker, *HARDWOOD RECORD*, November 10, 1924.
- An Interesting Phase of Drying, by A. J. Cross, *HARDWOOD RECORD*, November 23, 1924.
- Bibliography on Farm Forestry, by H. E. Stockbridge (mimeographed, Forest Service).
- Bibliography on Thinning, by H. E. Stockbridge (mimeographed, Forest Service).
- Chestnut Tree Surviving Blight, by A. P. Kelley, *SCIENCE*, September 25, 1924.
- Can the Lower Mississippi Valley Pine Lands be Made Permanent Investments? by W. W. Ashe, *LUMBER MANUFACTURER AND DEALER*, December 12, 1924.
- Douglas Fir Regeneration, by E. W. Munns, *INDIAN FORESTER*, September, 1924.
- Decay in Douglas Fir in Relation to Cruising, by J. S. Boyce, *LUMBER WORLD REVIEW*, November 10, 1924.
- Economic Waste in Operating Small Trees, by W. W. Ashe, *SOUTHERN LUMBERMAN*, December 20, 1924.
- Forest Students and Forest Schools Need Cooperation and Assistance of Lumber Industry, by G. W. Peavy, *FOUR L BULLETIN*, November, 1924.
- Forest Fire Prevention on Privately-Owned Lands, by H. E. Hardtner, *LUMBER TRADE JOURNAL*, November 1, 1924.
- Forest Fire Prevention in France, *LUMBER AND VENEER CONSUMER*, October 30, 1924.
- Fire Conscious, by G. J. Joy, *WEST COAST LUMBERMAN*, November 1, 1924.
- Forest Experiments in Idaho, by A. H. Weidman, *TIMBERMAN*, September, 1924.
- Growth of Grayling Pine, by A. E. Wackerman, *JOURNAL OF FORESTRY*, November, 1924.
- Growth and Regeneration of the Pine Forests of California, by E. W. Hadley, *INDIAN FORESTER*, September, 1924.
- Growth on Cut-over and Virgin Western Yellow Pine Lands in Central Idaho, by C. F. Korstian, *JOURNAL OF AGRICULTURAL RESEARCH* 28.
- How Wood-using Industries are Asked to Save Half the Drain on Forests, *LUMBER MANUFACTURER AND DEALER*, November 14, 1924.
- Hardwood Lands After Logging, by P. A. Herbert, *QUARTERLY BULLETIN OF MICHIGAN AGRICULTURAL EXPERIMENT STATION*, August, 1924.



How Watersheds are Affected by Forest Cover; by W. W. Ashe, FOREST AND WATER ENGINEERING, December 10, 1924.

Imminent Extinction of a Tree Species; Expert Foresters Pronounce Doom of Eastern and Southeastern Chestnut. LUMBER AND VENEER CONSUMER, October 30, 1924.

Notes on Woody Plants, by W. W. Ashe. JOURNAL MITCHELL SCIENTIFIC SOCIETY, September, 1924.

National Forests Road System, by L. I. Hewes, ENGINEERING AND CONSTRUCTION, November 5, 1924.

New Growth of Pine Forests in Georgia, by J. C. Nash. NAVAL STORES REVIEW, November 1, 1924.

Possible Reductions in Lumber Seasoning Losses, by J. S. Keith, LUMBER WORLD REVIEW, November 25, 1924.

Paper, Progress and Prosperity, by A. A. Sherman, REVIEW OF REVIEWS, December, 1924.

Possible Reductions in Lumber Seasoning Losses, by J. S. Keith, LUMBER world review, November 25, 1924.

Putting Market Research Information to Work, by C. T. Swan, LUMBER WORLD REVIEW, November 10, 1924.

Reforestation - What is the Answer in the Lake States? by Joseph Kittredge, Jr., LUMBER WORLD REVIEW, November 10, 1924.

Some Results of Winter Slash Disposal, by G. Kempff. PULP AND PAPER MAGAZINE, October 2, 1924.

Southern Pine Beetle and Other Insect Enemies of Southern Forests, by A. A. St. George, LUMBER TRADE JOURNAL, November 1, 1924.

Sowing and Planting Pines in the South, by W. R. Mattoon, NAVAL STORES REVIEW, November 22, 1924.

The Forests of the Landes, by P. J. Lacoste, NAVAL STORES REVIEW, November 1, 1924.

Timber Saving by Printing and Preservation, by F. L. Browne, AMERICAN LUMBERMAN, November 6, 1924.

The Preservation of Marine Structures, by W. G. Atwood, MILITARY ENGINEER, November-December, 1924.

The Use of Out-over Lands in Florida, by W. W. Ashe, SOUTHERN LUMBER JOURNAL, November 15, 1924.

The Influence of Growth Conditions upon the Properties of Wood, by B. H. Paul, JOURNAL OF FORESTRY, November, 1924.

The Behavior of Wood in Drying, with Especial Reference to Varnish Drying Conditions, by H. D. Tiemann, AUTOMOTIVE INDUSTRIES, October 30, 1924.

The Forest Products Laboratory, by W. H. Gibbon. THE TIMBERMAN, November, 1924.

Waste Problems, by W. B. Greeley. AMERICAN LUMBERMAN, November 22, 1924.

Waste Land Turned into Forests, by J. A. Larsen. AMERICAN SCANDINAVIAN REVIEW. September, 1924.

When Can the Small Top Log be Removed at a Profit? by W. W. Ashe. LUMBER WORLD REVIEW, November 10, 1924, and WEST COAST TIMBERMAN, December 24, 1924.

What are the Probable Returns from Growing Trees in the South? NAVAL STORES REVIEW, November 29, 1924.

Waste Land Forestry, by D. Lange, MINNESOTA HORTICULTURIST, October, 1924.

Wood-saving Conference Adopts Program for Ridding Industry of Waste, by W. L. Daley, LUMBER MANUFACTURER AND DEALER, November 26, 1924.

Wood-using Possibilities of Western North Carolina, by J. H. Pratt, SOUTHERN LUMBERMAN, December 20, 1924.

Washington's Annual Forestry Conference, TIMBERMAN, December, 1924.

What Does It Cost Private and Corporate Interests to Grow Timber in the Northwest? By B. P. Kirkland, WEST COAST LUMBERMAN, December 1, 1924.

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#### Miscellaneous Publications

Commissioners of Woods, Forests and Land revenues - Great Britain.  
The hundred and second report. London, 1924.

Pennsylvania State Forest School, Mont Alto, Pa., 22nd year, 1924-25.  
Harrisburg, Pa., 1924. (Bulletin #34.)

Yale Forest School. Prospectus. 1924-25. New Haven, Conn., 1924.

Why Forestry in Missouri? Missouri Forestry Association. Columbia, Missouri, 1924.

The Kiln Drying of Timber: A series of ten lectures delivered in Melbourne. Melbourne Government printer.

Two leaflets, "How to Plant Forest Tree Seedlings" and "The Why-Where-What of Forest Planting," by Assistant Forester Scovell of New Jersey, are now being distributed by the New Jersey Department of Conservation and Development.

The Seventeenth Annual Report of the Pond d'Oreille Timber Protective Association for the year 1924 has recently been published and is now being distributed.

"Fire Prevention and Fire Fighting on the Farm" is the title of Farmers' Bulletin 904, contributed by the Office of Farm Management, U. S. Department of Agriculture.

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Publications Issued by the Forest Service from December 1, 1924,  
to January 31, 1925

Department Bulletin 1294 - The Role of Fire in the California Pine Forests.

Department Circular 327 - The French Turpentine System Applied to Long-leaf Pine.

Department Circular 318 - The National Forests of Arizona.

Department Circular 313 - Purchase of Land Under the Weeks Law.

Map Folder - Grand Mesa National Forest, Colorado.

Map Folder - Deschutes National Forest, Oregon.

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A CORRECTION

An announcement on the first page of this issue gives the date of American Forest week as April 19 - 25. This date should be changed to April 27 - May 3.





